

THE COCKROACH GENERA *PSEUDOTHYRSOCERA*
SHELFORD, *HAPLOSYPMPLOCE* HANITSCH,
AND *EPISYPMPLOCE* BEY-BIENKO
(BLATTARIA: BLATTELLIDAE, BLATTELLINAE)

Roth, L.M. 1997. The cockroach genera *Pseudothyrsocera* Shelford, *Haplosymploce* Hanitsch, and *Episymploce* Bey-Bienko (Blattaria: Blattellidae, Blattellinae). – Tijdschrift voor Entomologie 140: 67-110, figs. 1-123 [ISSN 0040-7496]. Published 31 October 1997.

Twelve species of *Pseudothyrsocera* are redescribed and one new species, *P. perkinsi*, is described. A key is given to identify the males. The genus is divided into two species groups. *Leptothyrsocera* is a junior synonym of *Pseudothyrsocera*. *Ischnoptera sinensis* Walker (= *Episymploce sinensis*) is transferred to *Pseudothyrsocera*.

Eight species of *Haplosymploce* are redescribed, and a key to males is given. New synonyms are: *Symploce bicolorata* Roth is *Haplosymploce montis* (Shelford), and *Symploce ferruginea* Roth is *Haplosymploce nigra* (Hanitsch). *Mopsera andamanica* Princis, *Pseudomops pica* Walker, *Pseudothyrsocera ruficollis* Shelford, and *P. moultoni* Hanitsch are transferred to *Haplosymploce*. *Haplosymploce guttifera* (Walker) is *Beybienkoa guttifera* [= its junior synonym *Beybienkoa papuensis* (Roth)], and *Haplosymploce walkeri* Princis is *Hemithyrsocera walkeri*.

Two new species of *Episymploce*, *E. simmonsii* n. sp. and *E. parafissa* n. sp., are described and several species of *Symploce* are transferred to that genus. Several new records of *Episymploce* are given. Lectotypes are designated for the following species: *Pseudothyrsocera montana* Shelford, *Pseudomops pica* Walker, *Thyrsocera circumcincta* Stål, *T. lugubris* Stål, *T. rufiventris* Stål, *T. semicincta* Stål, *Ischnoptera montis* Shelford, and *I. nigra* Hanitsch.

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Key words. – *Pseudothyrsocera*, *Haplosymploce*, *Episymploce*, Blattellidae; cockroaches; taxonomy; redescriptions; new species; new combinations; new records.

This work is a continuation of my studies of cockroaches from the Indo-Australian regions. Two genera, namely, *Pseudothyrsocera* Shelford and *Haplosymploce* Hanitsch, are revised. A third genus, *Episymploce* Bey-Bienko, is included because some of its diagnostic characters are similar to these two genera.

In this paper I redescribe 12 species of *Pseudothyrsocera*, describe one new species, and provide a key to distinguish the males. *Leptothyrsocera* Princis is a synonym of *Pseudothyrsocera*. I have divided *Pseudothyrsocera* into two species groups, one of them having characters annectant to *Episymploce*.

I recognize ten species (one with a query) of *Haplosymploce* and redescribe eight of them; *Pseudothyrsocera andamanica* (Princis) belongs in *Haplosymploce*. *Symploce bicolorata* Roth is *Haplosymploce montis* (Shelford), and *Symploce ferruginea* Roth is *Haplosymploce nigra* (Hanitsch).

Two new species of *Episymploce* are described, and

several species of *Symploce* are transferred to that genus.

The following museums and their curators or collection managers loaned me specimens: ANSP - Academy of Natural Sciences of Philadelphia, PA, U.S.A.; Mr. Donald Azuma; BPBM - Bernice P. Bishop Museum, Honolulu, Hawaii, U.S.A.; HECO - Hope Entomological Collections, Oxford University, England; Dr. George C. McGavin and Mr. I. Lansbury; MCZC - Museum of Comparative Zoology, Harvard University, Cambridge, MA, U.S.A.; MNHG - Museum für Naturkunde, Humboldt-Universität zu Berlin, Germany; Dr. Kurt Günther; NMWA - Naturhistorisches Museum Wien, Vienna, Austria; Dr. U. Aspöck & Dr. A.P. Kaltenbach; NRSS - Naturhistoriska Riksmuseet, Stockholm, Sweden; Per Inge Persson; RMNH - National Museum of Natural History (Rijksmuseum van Natuurlijke Historie), Leiden, The Netherlands; Mr. J. van Tol; ZILS -

Zoological Institute, Lund, Sweden; Dr. Roy Danielsson; ZMAN - Zoologisch Museum, Universiteit van Amsterdam, The Netherlands; Mr. Willem Hogenes; ZMUC - Zoological Museum, Copenhagen, Denmark; Soren Langemark.

SYSTEMATIC PART

Key to genera *Pseudothyrocera*, *Haplosymploce*, and *Episymploce*

1. Radial vein of hind wing simple (figs. 8, 10) or sometimes with a pseudoposterior branch (fig. 41). Intercercal processes present (fig. 82) or absent (fig. 3) 2
- Radial vein of hind wing with a distinct posterior branch (fig. 112). Intercercal processes absent (fig. 116) *Episymploce*
2. Hind wing cubitus vein with one or two complete and usually no (rarely 1) incomplete branches (figs. 8, 10, 16). Intercercal processes absent (figs. 18, 46) *Pseudothyrocera*
- Hind wing cubitus vein with four to seven complete and two to four incomplete branches (fig. 89). Intercercal processes present (fig. 79) *Haplosymploce*

Genus *Pseudothyrocera* Shelford

Pseudothyrocera Shelford, 1906: 250.- Princis 1951: 54 (footnote, selected type species, *Blatta xanthophila* Walker), 1969: 953 (literature).

Mopsera Hebard, 1929: 78. Type species: *Phyllodromia rectangulariter-vittata* Brunner, by monotypy.

Leptothyrocera Princis, 1965: 152. Type species: *Pseudothyrocera fulva* Hebard, by monotypy. Syn. n.

Diagnosis. – Some of the antennal segments may or may not be plumose. Tegmina and wings narrow, fully developed, the former with simple, straight radial vein, discoidal sectors longitudinal (fig. 32). Hind wing with radial vein simple, or questionably branched, straight, media vein simple or forked, cubitus vein with mostly one or two, and usually no or rarely one incomplete branches, apical triangle absent or subobsolete; anterior field comparatively narrow (figs. 8, 10, 16). Front femur usually Type B₁ (fig. 20d), rarely Type A (fig. 12), B₂, or intermediate between A and B (figs. 20a-d); pulvilli on four proximal tarsomeres of all legs, tarsal claws simple, symmetrical, arolia present, may be greatly reduced. Male: first and seventh abdominal terga specialized (figs. 15, 17), or only the seventh with a tergal gland (fig. 28). Supraanal plate symmetrical, paraprocts dissimilar, intercercal processes absent (fig. 11). Subgenital plate (visible portion in the pinned specimen) usually is asymmetrical, or nearly so, its shape variable (e.g.,

figs. 6, 14, 26, 37, 42). One (figs. 26, 35, 37) or usually two styles are present, and if the latter they are similar (figs. 29, 47) or dissimilar (fig. 14). Genitalia with three distinct phallomeres (e.g., fig. 37): genital hook on the left side, with a preapical incision (fig. 6); median phallomere simple (e.g., fig. 14), or bifurcate on distal half (figs. 6, 19, 37); right phallomere consisting of two or more sclerites, one of them often a cleft (e.g., fig. 19).

Remarks. – Princis (1965: 152) erected the monotypic genus *Leptothyrocera*, and designated *Pseudothyrocera fulva* Hebard as its type species. He selected the following characters given by Hebard in his description of *fulva* as the diagnostic features of the genus: Tegmen with the cubitus vein at the distal end of the anal field geniculate (abruptly bent in an obtuse angle) and there giving off a vein. Radius of hind wing with a bifurcation. Front femur Type B₁ [the front femur of *fulva* is Type B₁, Type B₂, or intermediate between Types A and Type B (figs. 20a-d)]; four proximal tarsomeres of the hind tarsi with very small pulvilli, tarsal claws symmetrical, unspecialized, arolia very small. Princis stated that *Leptothyrocera* can be separated from *Pseudothyrocera* by bifurcation of the radius vein of the hind wing. The geniculate cubitus of the tegmen may be found in some species of *Pseudothyrocera* (e.g., fig. 32). Sometimes it is difficult to decide whether or not the radius is bifurcated. Rehn (1951: 20) states that the radius usually has an apical posterior branch which may be either simple or show secondary divisions, and at times it has become indistinguishable or lost; his drawing (fig. 2) shows the branch distinctly projecting posteriorly between the radius and media veins. There is no question that the radius is bifurcated if the branch arises somewhere along its length and extends posteriorly between it and the media vein, as is characteristic of most *Episymploce* (fig. 112), *Hemithyrocera* (fig. 108) and many other genera. The radial veins of species of *Pseudothyrocera* are essentially unbranched. In *Pseudothyrocera fulva* the so-called bifurcation continues as a straight line from the radius and does not project distinctly posteriorly between the radius and media; the penultimate apical ramus with its five small branches (in the ♂) is widely separated from the small terminal vein (Hebard 1929: pl. 6, fig. 2) and both Hebard and Princis consider the vein to be bifurcated; I interpret this type of radial vein as having a pseudoposterior branch (figs. 41, 45). The lengths and branching of the apical rami of the radius (Rehn's 1951 terminology) may vary among species (e.g. figs. 8, 16, 31, 41, 45), and the branch may protrude very slightly posteriorly. The presence of one additional small terminal spine on the anteroventral margin of the front femur (Type B₁) in

Leptothyracera is of no generic importance here because these small stout spines may or may not be present or are about the same length as piliform spinules (figs. 20a-d). I can see no distinct differences between *Leptothyracera* and *Pseudothyracera* and I consider the former a junior synonym. Hebard (1929) included only the type species in *Mopsera* and suggested that *Phyllodromia castanea* Brunner (listed with a query in Princis's catalog) might also belong in this genus. Princis (1969: 954) listed *Mopsera* as a synonym of *Pseudothyracera* and I agree with him. The genus *Mopsella* Hanitsch (1936: 394) which Bruijning (1947: 226) renamed *Hanitschia*, because the original name was preoccupied, is nearest to *Mopsera* according to Hanitsch (1936: 394): 'Points of agreement between *Mopsella* and *Mopsera* are: small size and delicate structure; broad interocular space; simple, not plumose, antennae; narrow and elongate tegmina and wings; radial vein of tegmina and wings simple (i.e., not forked); discoidal sectors of the tegmina longitudinal; ulnar [= cubitus] vein of hind wings with complete branches; apical triangle absent. The chief differences are: *Mopsella* has a broad, not elongate pronotum; its hind femora are weakly spined (front femora missing); the costal and axillary veins of the wings are much fewer in number than in *Mopsera*.' The so-called differences between these two genera do not clearly separate them and they are most likely synonyms (of *Pseudothyracera*). Unfortunately, the type species, *Mopsella toxopei* Hanitsch, is known only from a unique female and the male should be examined before a final decision can be made regarding its correct generic placement.

The male genital hook of *Pseudothyracera* is on the left side which places it in the Blattellinae of McKittrick's (1964) system. I divide *Pseudothyracera* into the following two species groups and their subgroups:

1. *fulva*-species-group. – Subgenital plate variable in shape, the exposed portion (in the pinned specimen) not distinctly trigonal, without a process midway on the thickened left lateral margin (figs. 14, 19). One (fig. 37) or two styles (fig. 19) present.

Subgroup (a). Only the seventh abdominal tergum specialized. – Species: *perkinsi*; *rubronigra*; *xanthophila*.

Subgroup (b). Abdominal terga one and seven specialized. – Species: *fulva*; *rectangularitervittata*; *scutigera*.

2. *lugubris*-species-group. – Visible portion of the subgenital plate trigonal, usually with a process midway on the lateral margins, left side incrassate, with a pair of similar or dissimilar or similar styles usually close together at the apex (figs. 47, 56), or sometimes

more widely separated (fig. 67).

Subgroup (a). Only the seventh abdominal tergum specialized. – Species: *circumcincta*; *henrici*; *lugubris*; *rufiventris*.

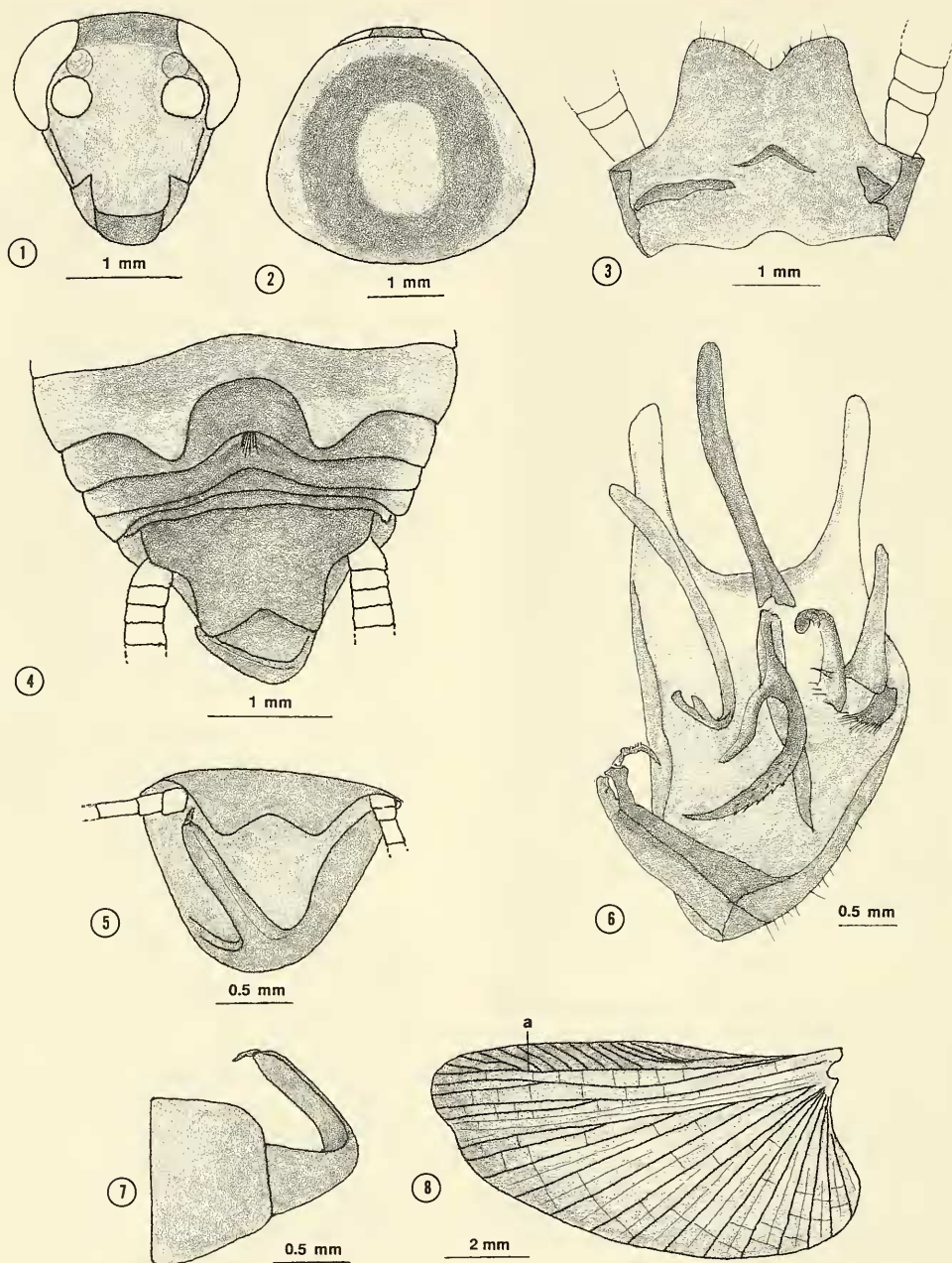
Subgroup (b). Only the first abdominal tergum specialized. – Species: *sinensis*.

Subgroup (c). First and seventh abdominal terga specialized. – Species: *montana*.

The *lugubris*-species-group has subgenital plates and styles similar to those of many species of *Episymploce* and they may be a link between *Pseudothyracera* and *Episymploce*.

Key to males of *Pseudothyracera*

1. Shape of the exposed portion of the subgenital plate variable, not trigonal, left side not thickened and without a process midway on the lateral margin, with one or two styles (Figs. 14, 19, 26) (*fulva*-species-group) 2
- Shape of the exposed portion of the subgenital plate trigonal, the left side thickened and with a lateral process near the middle of the margin (except in *henrici*), two styles present (figs. 42, 47, 49, 56, 67) (*lugubris*-species-group) .. 7
- 2 (1). Tergal gland on segments one and seven (figs. 15, 17) 3
- Tergal gland only on segment seven (figs. 9, 28, 34) 5
- 3 (2). Apex of the subgenital plate with a very large process that is upturned obliquely to the left and bearing a minute terminal style, second style absent (figs. 5-7). Pronotal disk with a broad, dark, round, O-shaped macula (fig. 2) *rectangularitervittata*
- Subgenital plate, styles, and pronotum not as above 4
- 4 (3). Apex of supraanal plate with a pair of small contiguous styles (fig. 19). Supraanal plate as in fig. 18. Pronotal disk without a dark macula *fulva*
- Apex of subgenital plate roundly produced, with a minute spinelike style at the apex (fig. 26). Pronotal disk with a large, dark macula (fig. 21) *scutigera*
- 5 (2). Subgenital plate rounded apically, with a small spinelike style on the right posterolateral corner and a minute hidden style medially (figs. 13, 14). Supraanal plate as in figs. 9, 11
- Subgenital and supraanal plates not as above 6
- 6 (5). Hind margin of subgenital plate rounded, not produced, medially with a pair of similar, almost contiguous styles (fig. 29) .. *rubronigra*



Figs. 1-8. *Pseudothyrsocera rectangularitervittata* (Brunner), males from Kuching, Sarawak; 1, head; 2, pronotum; 3, supraanal plate and paraprocts (ventral); 4, abdominal terga five to ten and subgenital plate (dorsal); 5, supraanal and subgenital plates (end view); 6, subgenital plate and genitalia (dorsal); 7, elongated process of the subgenital plate, and penultimate sternum (left lateral view); 8, left hind wing [a = simple (unbranched) radial vein].

- Apex of subgenital plate produced and bearing at its apex a large, broad style, second style absent (figs. 35, 37) *perkinsi*
- 7 (1). Abdominal terga one and seven specialized. Supraanal plate and paraprocts as in fig. 55 *montana*
- Only abdominal tergum one or seven specialized. Supraanal plate and paraprocts not as above 8
- 8 (7). Only abdominal segment one specialized (fig. 1B in Roth 1987c). Styles similar, very large, close together (fig. 1D in Roth 1987c) *sinensis*
- Only abdominal segment seven specialized. Styles not as above 9
- 9 (8). Left style elongated, spinelike, erect, located at the apex of the subgenital plate, right style well separated from it; midway on the left and right margins of the subgenital plate without a membranous process (fig. 67) *henrici*
- Left style not as above, both styles close together at the apex of the plate; a small membranous process is located midway on the left margin of the subgenital plate (a process occurs on the right side, but it may be greatly reduced or subobsolete) (figs. 47, 49, 56) 10
- 10 (9). Pronotum completely dark or with a very narrow yellowish line along the anterior margin (fig. 38). Supraanal plate and paraprocts as in fig. 40 *rufiventris*
- Pronotum dark, with a distinct pale ring around the entire border of the disk (figs. 43, 48) 11
- 11 (10). Supraanal plate with median region roundly produced, the curved hind margin with a row of dark setae (fig. 50). Abdominal terga and sterna orangish *circumcincta*
- Supraanal plate as in fig. 46. Abdominal terga reddish brown or black, sterna reddish *lugubris*

fulva-species-group

Pseudothyrsocera rectangularitervittata (Brunner)
(figs. 1-8)

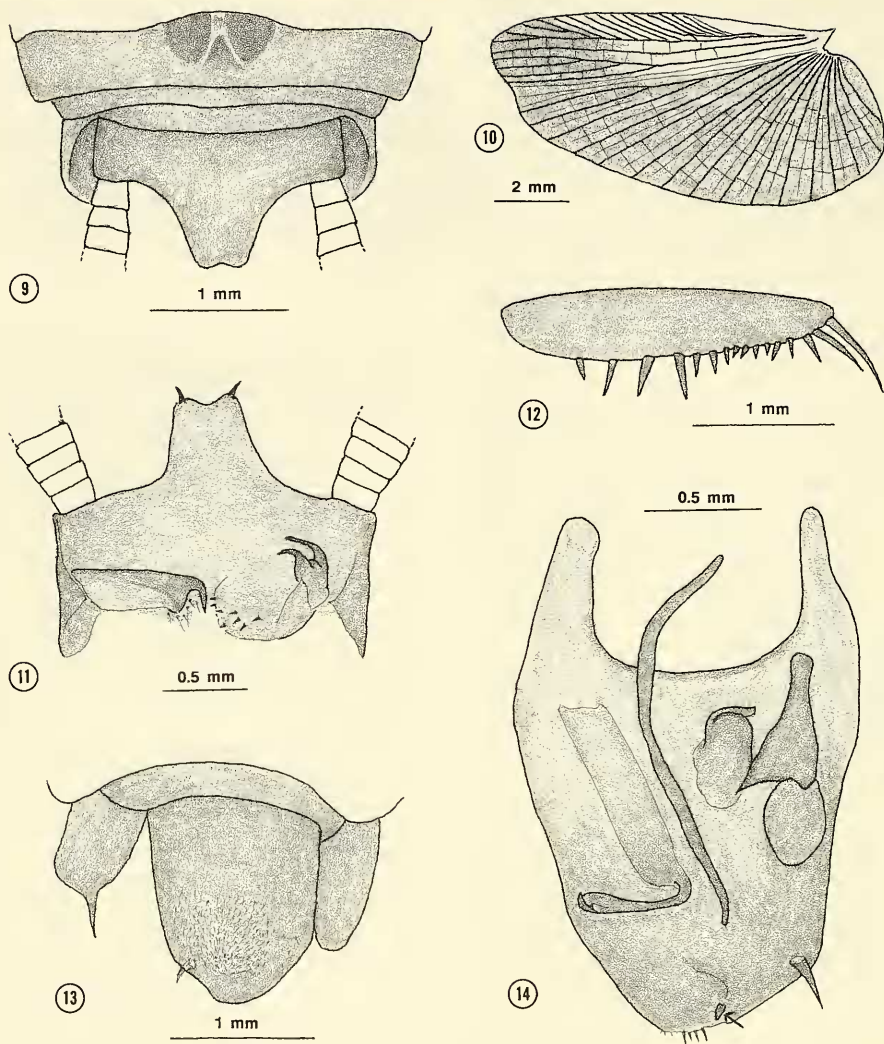
Phylldromia rectangulariter-vittata Brunner, 1898: 203, pl. XVI, fig. 3 (female) (p. 107, *recte vittata* Br., *lapsus calami*). Holotype ♀ [not examined], Baram, N.W. Borneo (Sarawak); probably in the Genoa Museum, Italy. – Kirby 1904: 91; Shelford 1908a: 13; Hanitsch 1923: 411. *Mopsera rectangularitervittata* (Brunner). – Hebard 1929: 78, pl. 5, fig. 6, pl. 6, fig. 1 (male and female); Bruijning 1948: 98; Princis 1969: 954.

Pseudothyrsocera rectangularitervittata (Brunner). – Princis, 1969: 956.

Specimens examined. – Borneo. NMWA: 1♂, Grabowsky, coll. Br. v. W. Sarawak. ANSP: Kuching [1°32'N 110°20'E], Sarawak, 1♂ (terminalia slide 454), 9.v.1900, Dyak coll. [all that remains of this specimen is one badly damaged wing, and the terminal abdominal segments in a vial attached to the pin. Hebard's description of the genus apparently was based only on this one specimen, presumably before it was badly damaged. I prepared a slide of the terminal segments and genitalia, see figs. 3, 6.]. HECO: N. Borneo, Kuching, 3♂, 1899, Dyak coll., pres. 1899 by R. Shelford.

Redescription. – Male: Head with interocular width greater than the distance between large round ocellar spots (fig. 1). Pronotum suboval widest behind the middle (fig. 2). Tegmina and wings fully developed extending beyond end of abdomen, the former with simple radial vein and longitudinal discoidal sectors. Hind wing with simple, straight radial vein, medial vein simple, or bifurcate distally, weakly concave, cubitus vein weakly concave with one or two complete and no incomplete branches, apical triangle absent (fig. 8). Front femur Type B, with seven or eight long and short stout proximal spines that decrease strongly in length distad succeeded by a short row of five or six piliform spinules terminating in three large spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present. First abdominal tergum with a tuft of setae anteromedially; fifth abdominal tergum with a deep, wide, inverted U-shaped excavation; seventh abdominal segment with a tuft of setae on an anteromedial elevation (fig. 4). [According to Hebard (1929: 78) the male is specialized on abdominal segment one ('median segment') and segments five to seven ('fourth to sixth'). Although the fifth tergum is deeply excavated (fig. 4), there are no setae, depressions, or clear areas on it and I do not consider this segment and the sixth specialized. Only segments one and seven (fig. 4) have a group of medial setae. Supraanal plate symmetrical, with hind margin broadly V-shaped (may be deflexed so that the V is not seen from above), right and left paraprocts small, dissimilar sclerites; medially between the cerci is a membranous shelf, intercercal processes absent (fig. 3). Subgenital plate elongate, strongly convex, at its apex a huge upturned process obliquely to the left, at its apex a small style (figs. 5-7). Genitalia as in fig. 6: hook on the left side, elongate, with a preapical incision; median phallomere divided near the middle, the distal half with a two-pronged asymmetrical structure; right phallomere consisting of three sclerites, one of which is a reduced cleft and another is a plate bearing setae along one margin.

Colour. – Head with occiput and vertex dark



Figs. 9-14. *Pseudothyrsocera xanthophila* (Walker), males. 9-13, from holotype: 9, abdominal terga seven to ten (supraanal plate); 10, hind wing; 11, supraanal plate and paraprocts (ventral); 12, front femur (anterior view); 13, subgenital plate and ninth laterotergites (ventral); 14, subgenital plate (from holotype), and genitalia (from Forsten Belang) (dorsal; arrow indicates the vestigial left style).

brown, remainder brownish yellow, labrum dark (fig. 1). Pronotal disk with a broad, black ring surrounding a yellowish macula, lateral region yellowish, subhyaline (fig. 2). Tegmina brownish-hyaline, anterior margin yellowish. Wings infuscated, darker in the costal region and near the apical margin in both anterior and posterior fields (fig. 8). Abdominal terga brownish with lateral zones brownish yellow, seg-

ments seven to nine darker except for brownish yellow lateral maculae, supraanal plate completely dark (fig. 4). Abdominal sterna brownish yellow. Cerci dorsally with proximal cercomeres dark brown, remaining segments and ventral surface, yellowish. Legs brownish yellow.

Female: Not seen.

Measurements (mm). Length, 9.6-11.0; pronotum

length \times width, $2.8\text{--}3.1 \times 3.3\text{--}3.5$; tegmen length, $10.1\text{--}10.5$; interocular width $0.7\text{--}0.8$.

Pseudothyrsocera xanthophila (Walker)
(figs. 9-14)

Blatta xanthophila Walker, 1868: 230 (male).

Thyrsocera xanthophila (Walker). – Kirby 1904: 78.

Pseudothyrsocera xanthophila (Walker). – Shelford 1906: 250; 1907: 489, pl. 30, figs. 1, 2 (male); 1908a: 5; Princis 1969: 954.

Specimens examined. – Holotype σ (terminalia slide 270) of *Blatta xanthophila*, Menado, Celebes, Wallace, W.W. Saunders colln., purchased and pres. '73 by Mrs. F.W. Hope; Type Orth. 51, in HECO. Additional specimens. – Sumatra. NMWA: Sumatra, Deli, Bandar Baroe, 1 σ , 23.i.22, Fulmek 1921-26, coll. R. Ebner (det. Hanitsch, 1931). RMNH: Belang, Forsten, 1 σ (terminalia slide 207) (labelled *xanthophila* by Bruijning).

Redescription. – Male: Head with interocular width slightly greater than the distance between antennal sockets. Pronotum suboval. Tegmina and wings fully developed extending beyond end of abdomen, former with simple radial vein and longitudinal discoidal sectors. Hind wing with straight, simple radial vein, media and cubitus veins weakly curved, former simple, the latter with one to three complete and no incomplete branches, apical triangle absent (fig. 10). Front femur intermediate between Type A, and B, with the row of preterminal spines very short and stout, not piliform-like (fig. 12); pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia small. First abdominal tergum unspecialized; hind margin of fifth tergum straight; seventh tergum with a pair of deep fossae separated by a pale medial elevation, setae absent (fig. 9); ninth laterotergites dissimilar, the right one with a spinelike process (fig. 13); supraanal plate produced, the apex narrowly concave with a dark downwardly directed spine in each corner (fig. 11); the spines are not seen in dorsal view, fig. 9); paraprocts dissimilar the left one with one and the right with two spinelike sclerotizations; intercercal processes absent (fig. 11). Subgenital plate narrow, elongate, densely covered with long slender setae on the posterior half, hind margin rounded, left style subobsolete, the right one small spinelike arising within the margin on the dorsal surface (figs. 13, 14; both styles cannot be seen in the pinned specimen which made Shelford conclude that they are absent; his 1907: pl. 30, fig. 2 drawing of the subgenital plate shows an elongated process on the left side of the plate which I did not see in my specimen.). Genitalia as in fig. 14: hook on the left side, with a preapical incision; median phallomere a simple curved rod; right

phallomere consisting of three sclerites one of them a cleft.

Colour. – Yellowish without distinctive markings. Tegmina brownish yellow hyaline. Hind wing with proximal or more portion of anterior field yellowish, remainder darkly infuscated (fig. 10). Cerci yellowish on both surfaces.

Female (previously undescribed): Head with interocular space greater than the distance between antennal sockets. Pronotum suboval. Front femur is distinctly Type B, with four to six stout spines decreasing in length distad, succeeded by seven piliform spinules, terminating in three larger terminal spines [the male front femur is intermediate between Types A and B, with the preterminal spines short and stout which are similar to piliform spinules in length (fig. 12)]. Tegmina and wings fully developed, extending beyond the end of the abdomen, the former with longitudinal sectors. Hind wing with simple radial and media veins, cubitus vein with two complete and no incomplete branches, apical triangle absent. Supraanal plate trigonal, apex rounded. The colouration is yellowish, essentially unicolorous, and similar to the male.

Measurements (mm) (σ in parentheses). – Length, 10.0 (9.5); pronotum length \times width, $3.2 \times 3.5\text{--}3.7$ (3.2×3.7); tegmen length, $10.0\text{--}11.0$ (11.5); interocular width, $0.9\text{--}1.0$ (1.0).

Remarks. – Princis (1969: 954) questioned the Sumatra record of *xanthophila* but the species does occur on that island.

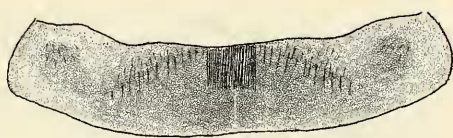
Pseudothyrsocera fulva Hebard
(figs. 15-20)

Pseudothyrsocera fulva Hebard, 1929: 79, pl. 6, fig. 2 (habitus) (female). – Hanitsch 1929a: 269 (incorrectly synonymized with *Pseudothyrsocera rubronigra* Hanitsch); 1932a: 64 (incorrectly synonymized with *rubronigra*).

Pseudothyrsocera xanthophila (nec Walker). – Hanitsch 1929a: 269; Bruijning 1948: 93, fig. 42 [misidentification and incorrectly synonymized *fulva* with *xanthophila* (Walker)].

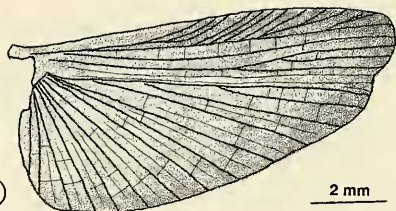
Leptothyrsocera fulva (Hebard). – Princis 1965: 152, 1969: 953.

Specimens examined. – Holotype σ , Fort de Kock [$0^{\circ}19'S$ $100^{\circ}22'E$], Sumatra, 920 m, i.1922, E. Jacobson; Type no, 1147, in ANSP. Additional specimens. – ZMAN: same locality and collector as holotype, 1 σ , vi.1922, 1 σ (terminalia slide 51), 2 σ (one labelled *Pseudothyrsocera rubronigra* Hanitsch, by Hanitsch), 1924, 1 σ , 4 σ , 1925, 2 σ (one labelled *Pseudothyrsocera xanthophila* Walker, by Hanitsch), 1926. One retained in MCZC. RMNH: Fort de Kock,



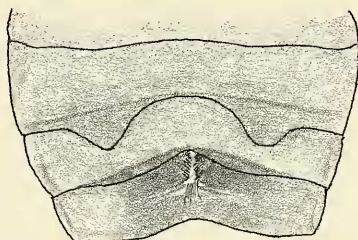
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1 mm



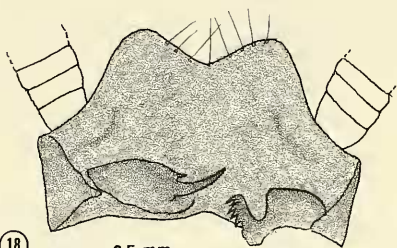
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2 mm



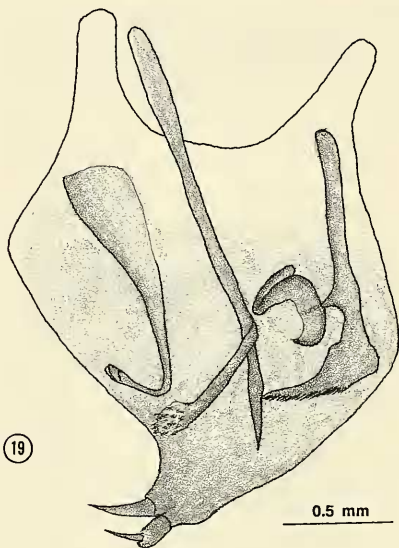
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1 mm



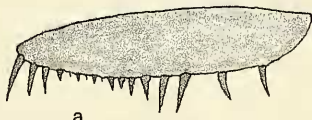
18

0.5 mm

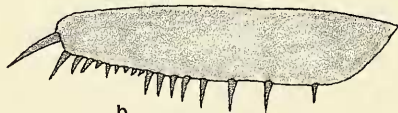


19

0.5 mm

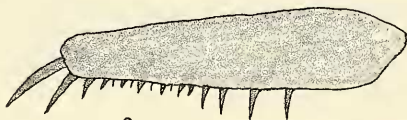


a

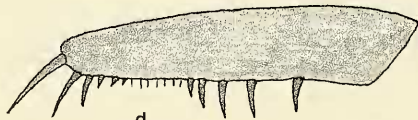


b

1 mm



c



d

Figs. 15-20. *Pseudothyrsocera fulva* Hebard, from Fort de Kock, Sumatra. 15-19, males: 15, first abdominal tergum; 16, hind wing; 17, abdominal terga five to seven; 18, supraanal plate and paraprocts (ventral); 19, subgenital plate and genitalia (dorsal); 20, front femora (anterior views) (a, male, b-d, females).

Sumatra, 920 m, 1♂, 1926, E. Jacobson; 1♂, 1♀, Sumatra Exp., 1877-1878; Suban Ajam, Sum., 1♀, vii.1916; Forsten Belang, 1♂. One retained in MCZC. HECO: Fort de Kock, Sumatra, 920 m, 1♂, 1♀, 1925, 2♀, 1926, E. Jacobson (misidentified as *xanthophila* by Hanitsch).

Redescription. — Male: Head slightly or distinctly exposed, eyes wide apart, interocular space greater than distance between ocellar spots and antennal sockets. Pronotum suboval, widest behind middle. Tegmina and wings fully developed extending beyond end of abdomen, former with longitudinal discoidal sectors. Hind wing with straight, simple, radial vein, media and cubitus veins straight or weakly curved, the latter with one bifurcated or two complete and no incomplete branches, apical triangle absent (fig. 16). Front femur Type B₁ or intermediate between A₁ and B₁, the large proximal spines decreasing sharply in length so that they become very short stout spines about the same length as the small number of piliform spinules (fig. 20a); pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum with setae on anterior half, these densest anteromedially (fig. 15); fifth abdominal tergum without setal tufts or clear areas (not specialized), hind margin deeply, concavely excavated; sixth segment not specialized, seventh tergum with a pair of depressions anteromedially, separated by a longitudinal ridge bearing setae (fig. 17); supraanal plate with hind margin broadly excavated, paraprocts dissimilar, the right one with a serrated sclerotization, the left one with a spinelike process; intercercal processes absent (fig. 18). Subgenital plate asymmetrical, the apex produced, directed dorsad and bearing a pair of small dissimilar contiguous styles, the right one with a large terminal spine (fig. 19). Genitalia as in fig. 19: hook on the left side, with a preapical incision; median phallomere apically acute, with a distal branch whose apex is spicular; right phallomere consisting of two sclerites, one of them a reduced cleft, distal margin of the other setose.

Female: Front femur Type B₁ (fig. 20d) or B₁, or intermediate between Types A and B, the large stout proximal spines decreasing sharply in length, these followed by a few minute piliform spinules (some small stout spines about the same length as spinules may occur among the slender spinules; fig. 20c); at least 2 females have no piliform spinules and the short row of spines that precede the 3 terminal spines are stout and about the same length as piliform spinules (Type A; fig. 20b). Supraanal plate symmetrical, rounded, apex reaching slightly beyond margin of subgenital plate.

Colour. — Head, pronotum, cerci, and legs brownish yellow; basal antennal segments brownish yellow, remainder dark brown to black. Tegmina reddish brown-hyaline gradually becoming pale along the anterior margin. Hind wing with yellowish tinge, apex of anterior field and margin of posterior field infuscated. First abdominal segment and terga six to ten dark brown, remainder brownish yellow. The tegmina and dark markings on the abdomen usually are lighter in the female.

Measurements (mm) (♀ in parentheses). — Length, 10.0-11.1 (9.0-11.3); pronotum length × width, 3.1-3.4 × 3.6-3.9 (3.3-3.5 × 3.6-4.1); tegmen length, 10.0-11.6 (10.0-11.6); interocular width, 1.1 (1.2).

Remarks. — Although *rectangularitervittata* and *fulva* have been misidentified, their subgenital plates, styles, and genital phallomeres are distinctly different.

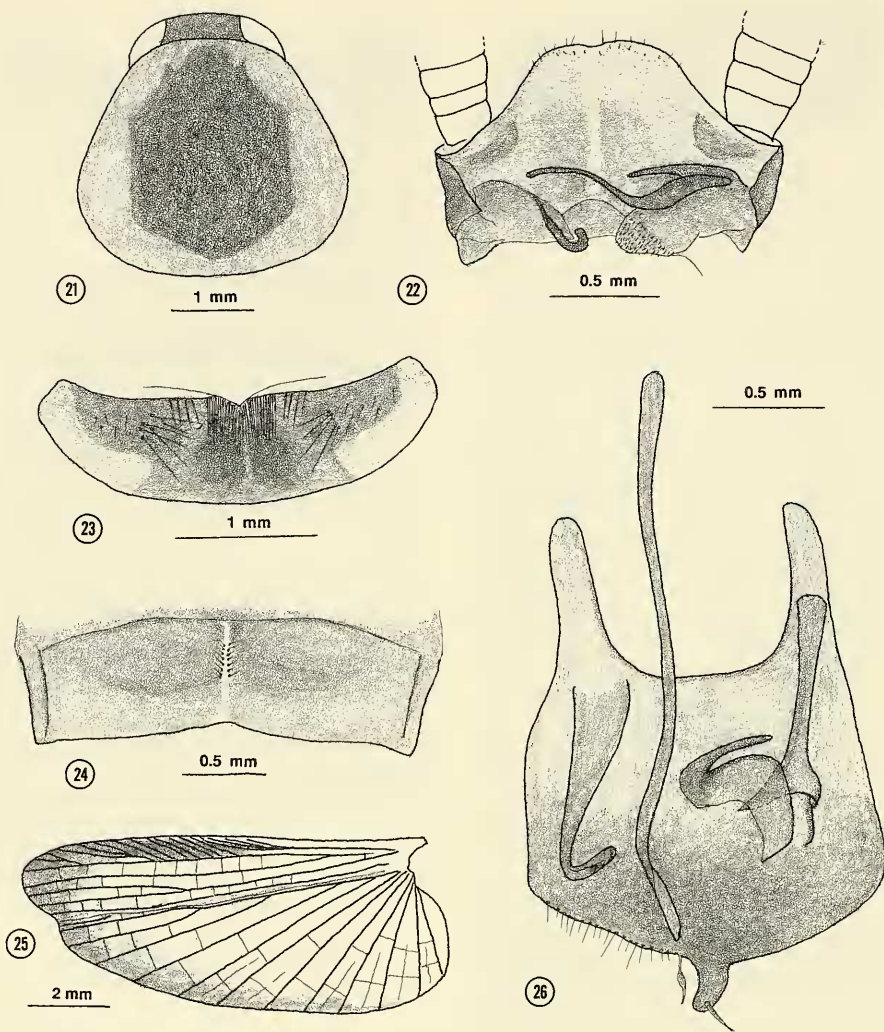
Hanitsch (1929a: 268, 269) reported 11 specimens of *Pseudothyrocera xanthophila* and five examples of *rubronigra* from Fort de Kock (same data as specimens examined here) and stated that the two species differed in colour; because Hebard's *fulva* also came from Fort de Kock, Hanitsch synonymized it with *xanthophila*. Bruijning (1948: 94) accepted Hanitsch's identifications and synonymy stating that the only difference between these two species is colour and concluded that *rubronigra* is a dark morph of *xanthophila* and synonymized the two species. Clearly, *rubronigra* (figs. 27-31) differs from *fulva* (figs. 15-19), as well as *xanthophila* (figs. 9-14) and the three species are distinct. Bruijning's (1948: fig. 42) drawing of the subgenital plate and styles is that of *fulva* and not *xanthophila* as he indicated.

Pseudothyrocera scutigera (Walker)
(figs. 21-26)

Pseudomops scutigera Walker, 1868: 212 (male).

Pseudothyrocera scutigera (Walker). — Kirby 1904: 77; Shelford 1906: 250, 1907: 489, 1908a: 5; Hanitsch 1915: 34, 1923: 397, 1931: 393; Hebard 1929: 10 (*scutiger*); Bruijning 1948: 95; Princis 1969: 954 (literature).

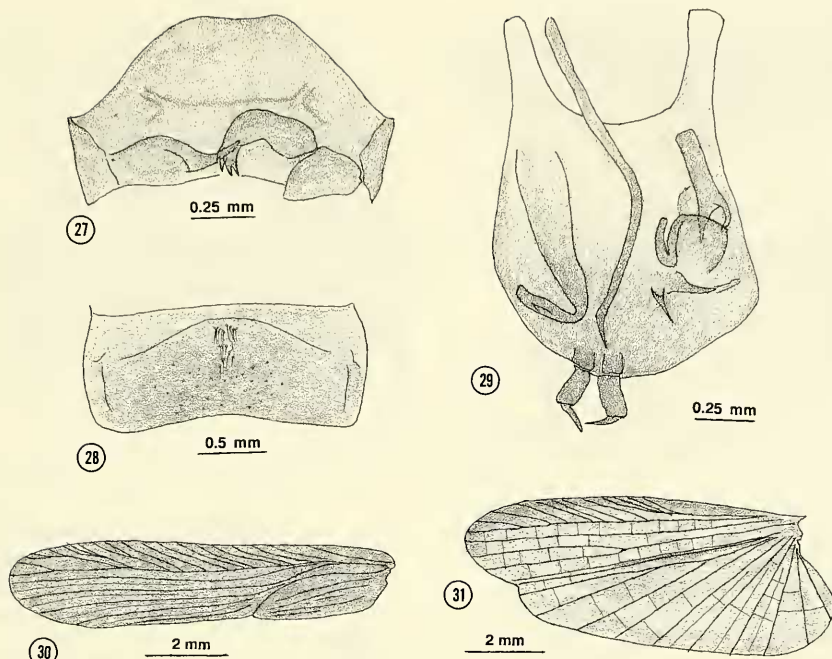
Specimens examined. — Holotype, ♂ [abdomen missing], Sarawak, Wallace in Mr. Saunders collection; Type Orth. 52 in HECO. Additional specimens. — Sabah. ZILS: Malaysia, Sabah, Sipitang [5°05'N 115°33'E] Mendolong, 1♂, 8.xii.1987, T1B/W4, 1♂ (terminalia slide 423), 25.iv.1988, 1♂, 11.v.1988, 1♂, 14.iii.1988, S. Adebratt. One retained in MCZC. Unknown country. RMNH: Orut Ratuna, 1♂, v.1865, Van Hasselt (reported by Bruijning, 1948: 95).



Figs. 21-26. *Pseudothyrocera scutigera* (Walker), males from Sabah: 21, pronotum; 22, supraanal plate and paraprocts (ventral); 23, first abdominal tergum; 24, seventh abdominal tergum; 25, hind wing; 26, subgenital plate and genitalia (dorsal).

Redescription. – Male: Head exposed, interocular width slightly greater than distance between ocellar spots. Antennae not plumose. Pronotum suboval, sides deflexed, widest behind middle (fig. 21). Tegmina and wings fully developed extending beyond end of abdomen, former with longitudinal discoidal sectors. Hind wing radial and media veins simple, straight, cubitus straight with a single complete and no incomplete branches, apical triangle

absent (fig. 25). Front femur Type B, with four or five large or stout proximal spines; pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia well developed. First abdominal tergum specialized with setal groups anteromedially, the densest in a raised middle region (fig. 23). Seventh abdominal tergum with a pair of shallow depressions separated by a longitudinal ridge bearing two rows of setae (fig. 24). Supraanal plate with sides of hind margin oblique,



Figs. 27-31. *Pseudothyrocera rubronigra* (Hanitsch), male lectotype. 27, supraanal plate and paraprocts (ventral); 28, seventh abdominal tergum; 29, subgenital plate and genitalia (dorsal); 30, left tegmen; 31, left hind wing.

apical region rounded, weakly indented medially; paraprocts dissimilar, left one with a small hooklike sclerotization, right one with two dissimilar spinelike sclerotizations; intercercal processes absent (fig. 22). Subgenital plate practically symmetrical, hind margin with a rounded protruding structure medially, which may represent a nonarticulated style bearing a minute apical seta; to the left of this structure is a long slender seta or one that is swollen medially (fig. 26). Genitalia as in fig. 26: hook on the left side with a preapical incision; median phallomere slender, simple; right phallomere consisting of two sclerites of which one is a cleft.

Female: Unknown.

Colour. — Head black, labrum lighter, maxillary palpomeres one to three and basal half of the fourth pale, remainder black; antennae with about the first 30 antennomeres black succeeded by about 30 white segments, remainder black. Pronotum with a large black macula surrounded by yellow (fig. 21); mesonotum dark, metanotum yellow. Tegmina with part of anterior region reddish, remainder black. First abdominal tergum black except for yellow lateral

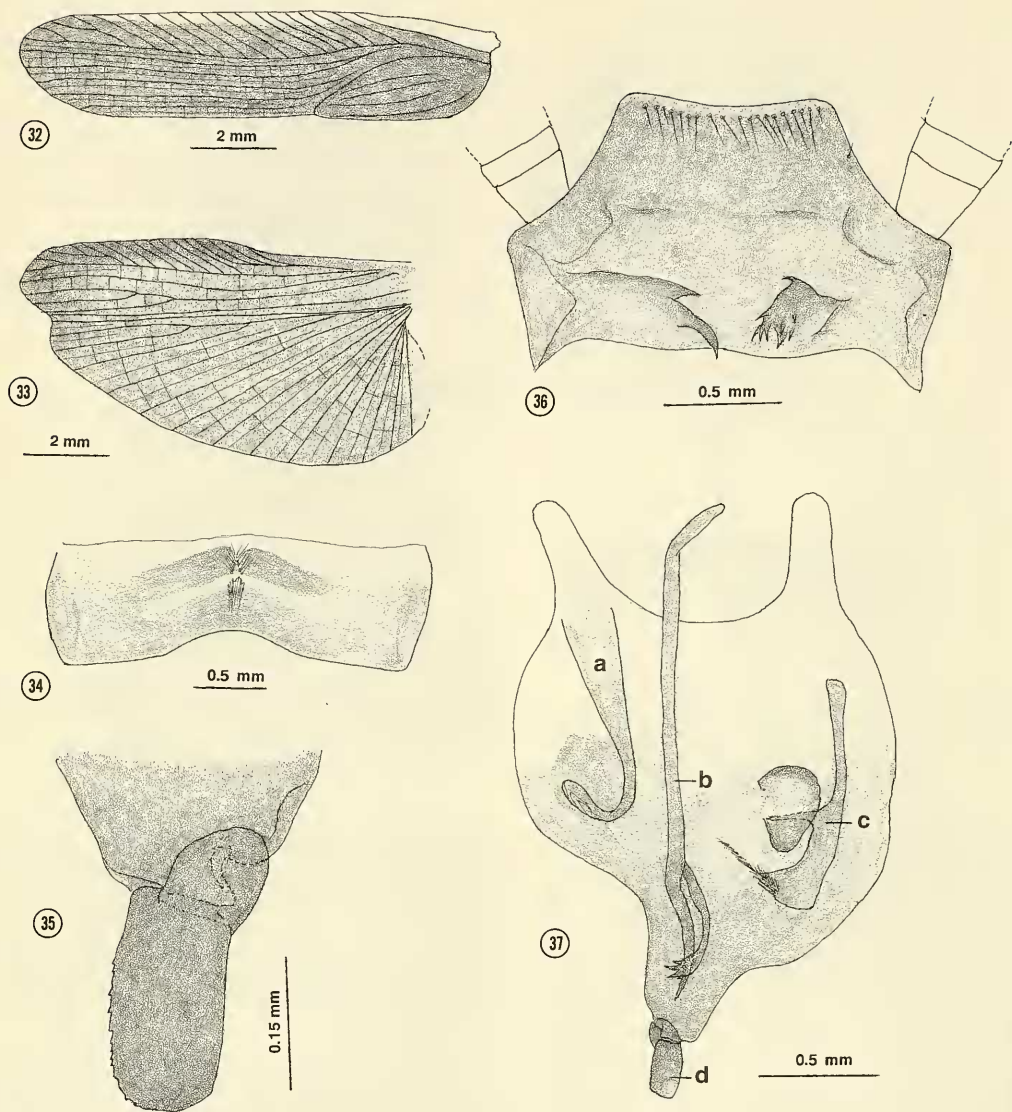
zones, segments two to five yellow, the sixth black except for yellow lateral areas, seven to ten black except for pale apex on supraanal plate. Abdominal sternae yellow, subgenital plate dark. Front coxae black on basal half, rest white, mid and hind coxae mostly black their distal parts and outer margins, and trochanters white, femora, tibiae and tarsi dark reddish brown. Cerci white, their proximal segments with yellowish tinge.

Measurements (mm) (the holotype is smaller than the others and is shown in parentheses). — Length, 8.6-10.5 (abdomen missing); pronotum length \times width, 2.8-3.0 \times 3.1-3.2 (2.5 \times 2.8); tegmen length, 10.6-11.2 (10.0); interocular width, 0.9-1.0 (0.8).

Remarks. — The distinctive colour markings (particularly the pronotal macula) separates this species from others in the genus.

Pseudothyrocera rubronigra (Hanitsch)
(figs. 27-31)

Phyllodromia rubro-nigra Hanitsch, 1923: 412, fig. 11 only, (male only, not female). — Bruijning 1948: 93 (incorrectly synonymized with *xanthophila*).



Figs. 32-37. *Pseudothyrsocera perkinsi* sp. n., male holotype: 32, left tegmen; 33, left hind wing. 34, seventh abdominal tergum; 35, single style at the apex of the subgenital plate (ventral); 36, supraanal plate and paraprocts (ventral); 37, subgenital plate and genitalia (dorsal; a, left phallomere; b, median phallomere; c, sclerites of the right phallomere; d, style).

Pseudothyrsocera rubro-nigra (Hanitsch). – Hanitsch 1928: 14, 1929a: 269, 1932a: 64; Hebard 1929: 10 (exclusive of '♀').

Pseudothyrsocera fulva (nec Hebard). – Hanitsch 1929a: 269 (misidentification).

Mopserina rubronigra (Hanitsch). – Princis 1965: 152 (exclusive of '♀').

Hemithyrsocera rubronigra (Hanitsch). – Princis 1971: 1127 (literature, exclusive of '♀').

Specimens examined. – Lectotype ♂ (selected by Hebard 1929: 79) (terminalia slide 267), Gunong Angsi, Negri Sembilan, Malaya, [2°45'N 102°10'E] 2000'-2790', iv.1918, Hanitsch; Type Orth. 263 $\frac{1}{3}$ in HECO. Additional specimens. – Malaya. HECO: same data as lectotype, 1 ♂, Type Orth. 263 $\frac{1}{3}$ (see remarks, below).

Redescription. – Male: Head exposed, eyes bulbous, somewhat reduced, interocular space greater than the distance between antennal sockets and ocellar spots; proximal antennal segments weakly plumose. Pronotum suboval. Tegmina and wings fully developed extending beyond end of abdomen, the former narrow with longitudinal discoidal sectors (fig. 30). Hind wing with simple, thickened costal veins, media and radial veins straight, simple, cubitus vein straight, with one long complete and no incomplete branches, apical triangle absent (fig. 31). Anteroventral margin of front femur Type B₁ with five to seven large proximal spines; pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia small. First abdominal tergum unspecialized. Seventh abdominal tergum with a small group of setae anteromedially (fig. 28). Supraanal plate hind margin with oblique sides and broadly subtruncate apex, right and left paraprocts dissimilar, intercercal processes absent (fig. 27). Subgenital plate weakly asymmetrical with a pair of similar, almost contiguous styli mesad on the hind margin; each style consists of a small base arising within the margin of the plate succeeded by a rectangular segment and terminating in an articulated spine (fig. 29). Genitalia as in fig. 29: hook on the left side, with a preapical incision, median phallomere, slender, simple, apex acute, right phallomere consisting of two sclerites one of which is a cleft, and near it are two small spines.

Colour. – Head orangish, unicolourous, maxillary palpomeres dark brown, proximal antennal segments and apex blackish, remainder yellowish. Pronotum orangish without markings. Tegmina dark reddish brown-hyaline, veins very dark. Hind wing weakly infuscated, anterior region and apex of anterior field darker (fig. 31). Abdominal terga light brown, terminal segments darker. Abdominal sterna light brown, subgenital plate darker. Coxae and femora orangish, the latter apically dark, tibiae and tarsi blackish brown. Cerci yellowish white.

Female. Unknown.

Measurements (mm). – Length, 7.8; pronotum length \times width, 2.2–2.3 \times 2.6; tegmen length, 9.4–9.5; interocular width, 1.0–1.1.

Remarks. – Hanitsch (1923) reported only two syntypes, one male and one female, in his original description. These two specimens have handwritten species labels. The 'female' actually is a male and is a new species described below as *perkinsi*. There is a third male (listed above as additional specimens) labelled Type Orth. 263/1.; it has the same data as the lectotype and is clearly *rubronigra* but is not a syntype and does not have a handwritten identification label.

Hanitsch noted that the '♀' of *rubronigra* was large

er and the shape of the pronotum differed from the male but he considered them to be the same species. Hebard (1929: 79) disagreed and correctly stated that the two sexes were different species. Princis (1965: 152) actually examined the 'Typen (♂ ♀)' of *rubronigra* and concluded that they belonged to the same species, were not related to '*Pseudothyrsocera*' *fulva* Hebard and placed it in *Mopserina* Princis which he later (1971: 1124) synonymized with *Hemithyrsocera*, and incorrectly listed (p. 1127) *rubronigra* under that genus.

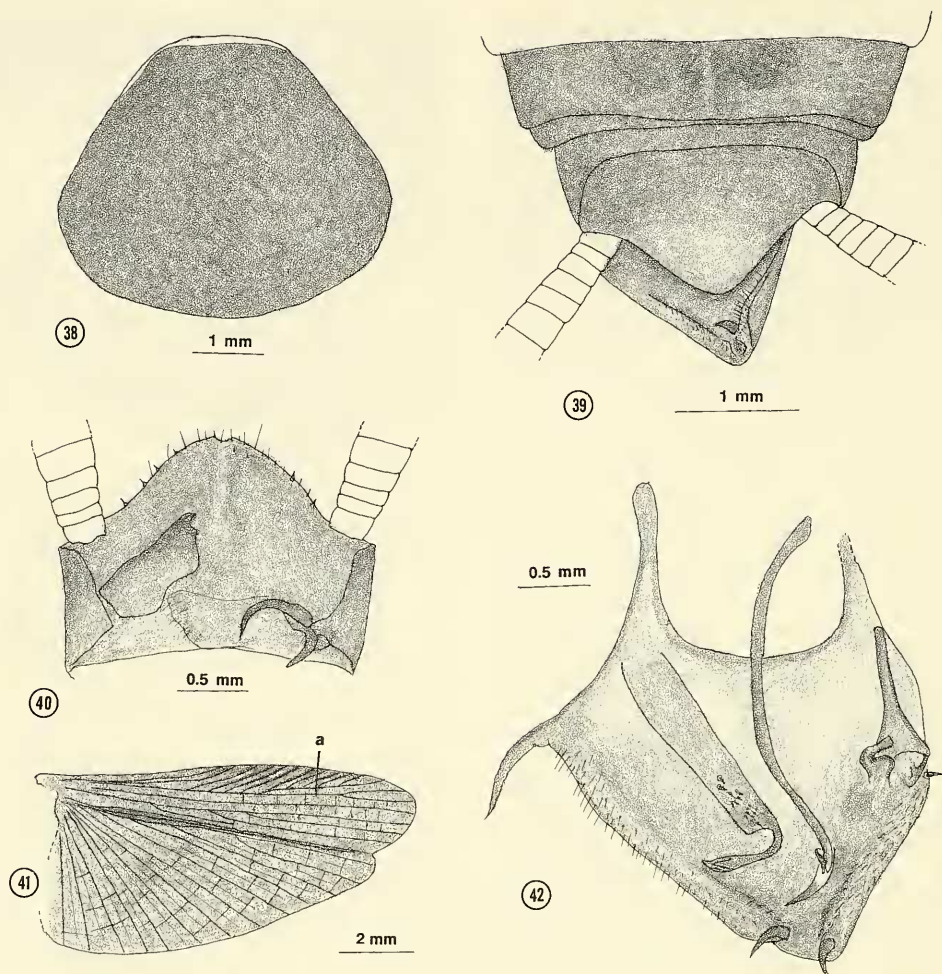
Pseudothyrsocera perkinsi sp. n.
(figs. 32–37)

Phyllodromia rubro-nigra Hanitsch (in part, 'paralectotype' male, incorrectly determined as '♀'), 1923: 412, fig. 12 only.

Specimen examined. – ♂ holotype (terminalia slide 268), Gunung Angsi, Negri Sembilan, Malaya, [2°45'N 102°10'E] 2000'–2790', iv. 1918, Hanitsch ('Type Orth. 263/1.' of *Phyllodromia rubro-nigra* Hanitsch, ♂, not ♀ as indicated); in HECO.

Description. – Male: Head almost completely hidden, eyes bulbous, somewhat reduced, wide apart, interocular space greater than the space between ocellar spots and antennal sockets; antennae missing. Pronotum suboval. Tegmina and wings fully developed, the former narrow with longitudinal discoidal sectors (fig. 32). Hind wing with thickened costal veins, all but the preterminal one simple; radial vein simple, media curved, cubitus vein curved with two complete and no incomplete branches, apical triangle absent (fig. 33). Front femur Type B₁ with six large proximal spines; pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia small. First abdominal segment unspecialized. Seventh abdominal tergum with two small groups of setae medially (fig. 34). Supraanal plate subtrapezoidal, paraprocts dissimilar, the right one terminating in several small spines, intercercal processes absent (fig. 36). Subgenital plate distinctly asymmetrical, the distal half of the left margin excavated, with a single large style at the apex (figs. 35, 37). Genitalia as in fig. 37: hook on the left side, with a preapical incision; median phallomere slender with a distal branch that terminates in several small spines; right phallomere consisting of two sclerites one of which terminates in a narrow row of minute setae.

Colour. – Head and pronotum unicolourous, orangish; maxillary palpomeres three and four pale, terminal segment light brown. Tegmina blackish with a narrow orangish stripe along most of the anterior margin (fig. 32). Wings darkly infuscated, anterior and apical regions darker (fig. 33).



Figs. 38-42. *Pseudothyrsocera rufiventris* (Stål), male from Surigao, Mindanao, Philippine Islands: 38, pronotum (the very narrow yellow anterior margin is asymmetrical and is missing on the right side); 39, abdominal terga seven to ten and subgenital plate (dorsal); 40, supraanal plate and paraprocts (ventral); 41, hind wing (a, pseudobranch of the radial vein); 42, subgenital plate and genitalia (dorsal).

Female: Unknown.

Measurements (mm). – Pronotum length \times width, 3.3-3.7; tegmen length, 11.3; interocular width, 1.1.

Etymology. – The species is dedicated to my friend Dr. Philip Perkins, Collection Manager, Entomology Department, Museum of Comparative Zoology, Harvard University.

Remarks. – See above remarks under *rubronigra*.

The single huge style at the apex of the subgenital plate is unique for the genus.

lugubris-species-group

Pseudothyrsocera rufiventris (Stål)
(figs. 38-42)

Thyrsocera rufiventris Stål, 1877: 33 (male). – Sjöstedt 1933: 3.

Hemithyrsocera rufiventris (Stål). – Kirby 1904: 77.
Pseudothyrsocera rufiventris (Stål). – Shelford 1908a, 5;
 1908b: 469; Princis 1969: 956 [listed as a synonym of *P.*
signata (Brunner); see remarks, below].

Specimens examined. – Lectotype, ♂ (here designated; with an unpublished lectotype label written by Princis, 1968), Ins. Philipp., in NRSS. Philippine Islands. ANSP: Surigao [9°45'N 125°30'E], Mindanao, 2♂ (one labelled *Pseudothyrsocera lugubris* (Stål) by Hebard, 1928) (one with terminalia slide 455); N.W. Panay [7°20'N 124°14'E], 1♂, Baker (labelled *Pseudothyrsocera rufiventris* (Stål) by Hebard, 1928).

Redescription. – Male: Head exposed, interocular distance greater than the distances between ocellar spots and antennal sockets; antennae not plumose. Pronotum suboval, widest behind the middle (fig. 38). Tegmina and wings fully developed, narrow, extending beyond end of abdomen, the former with simple, straight radial vein and longitudinal discoidal sectors. Hind wing with radial and media veins simple, straight, cubitus vein straight with two complete and one long incomplete branch, apical triangle absent (fig. 41). Front femur Type B, with four large proximal spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum unspecialized. Seventh abdominal tergum with a pair of shallow medial depressions with minute spaced setae (which may be white), setal groups absent; the depressions are separated by a longitudinal ridge (fig. 39) and there is a clear membranous zone in the anterior part of the ridge which is hidden by the overlapping sixth tergum in the pinned specimen. Supraanal plate symmetrical, trigonal, apex shallowly notched; paraprocts dissimilar darkly sclerotized, the right one with two spinelike processes, intercercal processes absent (fig. 40). Subgenital plate convex, trigonal, the sides upturned, asymmetrical, with a large spinelike process about midway on the left margin and a small dark seta on the opposite side; a pair of small similar styles occur apically on the dorsal surface within the margin (not visible in ventral view) (figs. 39, 42). Genitalia as in fig. 42: hook phallomere large, on the left side with a preapical incision and three groups of setae on the shaft just before the curved region; median phallomere with a small acute sclerite apically; right phallomere consisting of two sclerites one of which is a reduced cleft.

Colour. – Very dark. Head with reddish eyes, ocellar spots yellowish, antennae and maxillary palpi black, clypeus and labrum somewhat lighter. Pronotum usually solidly black or with a narrow incomplete yellowish line along the anterior margin (fig. 38). Tegmina black with a hyaline spot (very indistinct in lectotype) in the subcostal area. Hind

wings very dark brown. Abdominal terga black, supraanal plate dark reddish brown or black. Abdominal sterna reddish, apex of subgenital plate with a dark blotch. Legs black, outer margins of coxae yellow. Cerci black.

Female: Not seen.

Measurements (mm). – Length, 12.0-14.5; pronotum length \times width, 3.6-4.1 \times 4.2-4.7; tegmen length, 12.0-14.5; interocular width, 1.0-1.1.

Remarks. – Shelford (1908a: 5) listed *P. semicincta* as a synonym of *rufiventris*, and Princis (1969: 956) listed *rufiventris* as a synonym of *P. signata*. However, the pronotum of *rufiventris* is virtually all dark except for a subobsolete pale anterior margin (fig. 38); the pronotum of *signata* (= *semicincta*) is shiny black with yellow very narrow on the anterior, and lateral margins (may be absent), and broad posteriorly (figs. 57, 59). Until the male of *signata* is found and compared with *rufiventris*, I am listing them separately.

The male subgenital plate, styles, and genitalia of *rufiventris* (fig. 42), *lugubris* (fig. 47) and *circumcincta* (fig. 49) are very similar. These taxa can be separated by the differences in the pronotal markings and the shapes of the supraanal plates (cf. figs. 39, 46, 50).

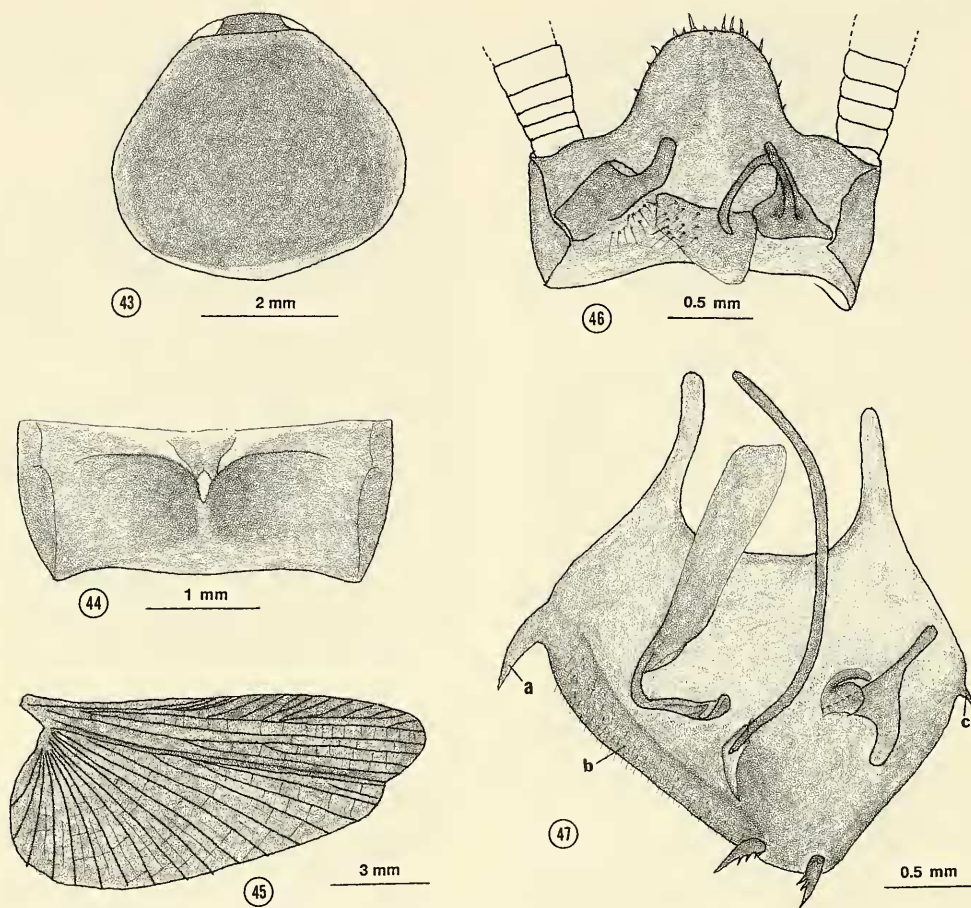
Pseudothyrsocera lugubris (Stål) (figs. 43-47)

Thyrsocera lugubris Stål, 1877: 33 (male). – Sjöstedt 1933: 3.
Hemithyrsocera lugubris (Stål). – Kirby 1904: 77.

Pseudothyrsocera lugubris (Stål). – Shelford 1908a: 5; Princis 1969: 955 (literature exclusive of synonymy).

Specimens examined. – Lectotype, ♂ (here designated; with an unpublished lectotype label written by Princis 1968), no exact locality, Ins. Philipp. [Philippine Islands], Semper; in NRSS. – Paralectotypes. Philippine Islands. NRSS: same data as lectotype, 3♂ (1 with terminalia slide 72).

Redescription. – Male: Head with interocular space slightly greater than distance between ocelliform spots and antennal sockets; antennae not plumose. Pronotum suboval, widest behind middle (fig. 43). Tegmina and wings fully developed extending beyond end of abdomen, former with longitudinal discoidal sectors. Hind wing with simple, straight radial and media veins, cubitus vein straight with two long complete and no incomplete branches, apical triangle absent (fig. 45). Front femur Type B, with three large proximal spines, or with an additional one or two small spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present. First abdominal tergum unspecialized. Seventh abdominal tergum with a pair of nonsetose depres-



Figs. 43-47. *Pseudothyrsocera lugubris* (Stål), males from the Philippines: 43, lectotype, pronotum; 44-47, paralectotype: 44, seventh abdominal tergum; 45, hind wing; 46, supraanal plate and paraprocts (ventral); 47, subgenital plate and genitalia (dorsal); a, spinelike process on the left side; b, thickened left margin; c, small spinelike process on the right side).

sions separated by a longitudinal ridge; a narrow clear zone anteromedially is seen in a slide preparation but is hidden by the overlapping sixth segment in the pinned specimen (fig. 44). Supraanal plate with median portion roundly produced or with a shallow medial indentation (visible in pinned specimens), the hind margin with some small spines, right and left paraprocts dissimilar, intercercal processes absent (fig. 46). Subgenital plate asymmetrical, trigonal, the left side with a large spinelike process and a broad roundly thickened border covered with fine setae, the right margin with a minute spinelike process; a pair of similar closely spaced serrated styli located at apex of plate (fig. 47). Genitalia as in fig. 47: elongated geni-

tal hook on left side with a preapical incision; median phallomere a curved rod with an acute membrane enclosing the apex; right phallomere consisting of two small sclerites, one a cleft.

Colour. – Head black, clypeus lighter, genae and ocelliform spots yellow; antennae and maxillary palpi black. Pronotum completely black or with a narrow yellowish band along posterior margin and indistinct dull reddish narrow band around the remaining margin (lectotype) (fig. 43), or dull reddish on hind margin only. Tegmina reddish brown or black with a yellowish-hyaline mark on distal half of subcostal region. Hind wings dark brown. Abdominal terga dark reddish brown or black. Abdominal sterna red-

dish, subgenital plate dark brownish. Legs black, coxae with outer margin yellow. Cerci black.

Female: Not seen.

Measurements (mm). – Length, 11.5–14.0; pronotum length \times width, 3.3–4.0 \times 3.9–4.5; tegmen length, 12.0–14.0; interocular width, 1.0–1.1.

Remarks. – The species is closest to *rufiventris* (see remarks under that species).

Pseudothyrocera circumcincta (Stål)
(figs. 48–52)

Thyrocera circumcincta Stål, 1877: 33 (male). – Kirby 1904: 77 (synonymized under *signata*); Shelford 1908a: 5, 1908b: 469; Sjöstedt, 1933: 3.

Pseudothyrocera circumcincta (Stål). – Shelford 1908a: 5, 1908b: 469; Princis 1969: 955 (listed as a synonym of *lugubris*).

Specimens examined. – Philippine Islands. NRSS: Holotype ♂ (terminalia slide 73), of *Thyrocera circumcincta* Stål, Ins. Philipp., no exact locality, Semper [Princis wrote '*Pseudothyrocera lugubris* (Stål), K. Princis, 1968' on back of holotype label]; same data as holotype, 1 ♀ (with handwritten label, '... = *circumcincta*, teste Shelford'). ANSP: Imugan [16°12'N 120°52'E], Luzon, 1 ♀ [labelled *Pseudothyrocera circumclusa* (Stål) ♀, by Hebard 1928].

Redescription. – Male: Head exposed, interocular width greater than space between ocellar spots and antennal sockets; antennae not plumose. Pronotum suboval, widest behind middle (fig. 48). Tegmina and wings fully developed, discoidal sectors of former longitudinal. Hind wing with radial and medial veins simple, straight, cubitus vein straight with two long complete and no incomplete branches, apical triangle absent (similar to fig. 45). Front femur Type B, with four long or three long and three short stout spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum unspecialized. Seventh abdominal tergum with a pair of shallow depressions separated by a longitudinal nonsetose ridge (similar to fig. 44). Supraanal plate medially broadly produced, the rounded hind margin with a dense row of small uniform spines, paraprocts dissimilar, intercercal processes absent (fig. 50). Subgenital plate trigonal, with a spinelike process midway on the left side, the margin posterior to it thickened and covered with small setae; right and left styles similar, spinelike (fig. 49). Genitalia as in fig. 49: hook on the left side with a preapical incision; median phallomere a slender rod; right phallomere consisting of two sclerites one of them a reduced cleft.

Colour. – Head black, genae and ocellar spots white; maxillary palpi and antennae black. Pronotum black, completely surrounded by a broad yellow band (fig. 48). Tegmina light reddish brown-hyaline, subcostal region lighter. Abdominal terga and sterna orangish. Cerci dark brown. Legs dark reddish brown, outer margins of coxae, and trochanters pale.

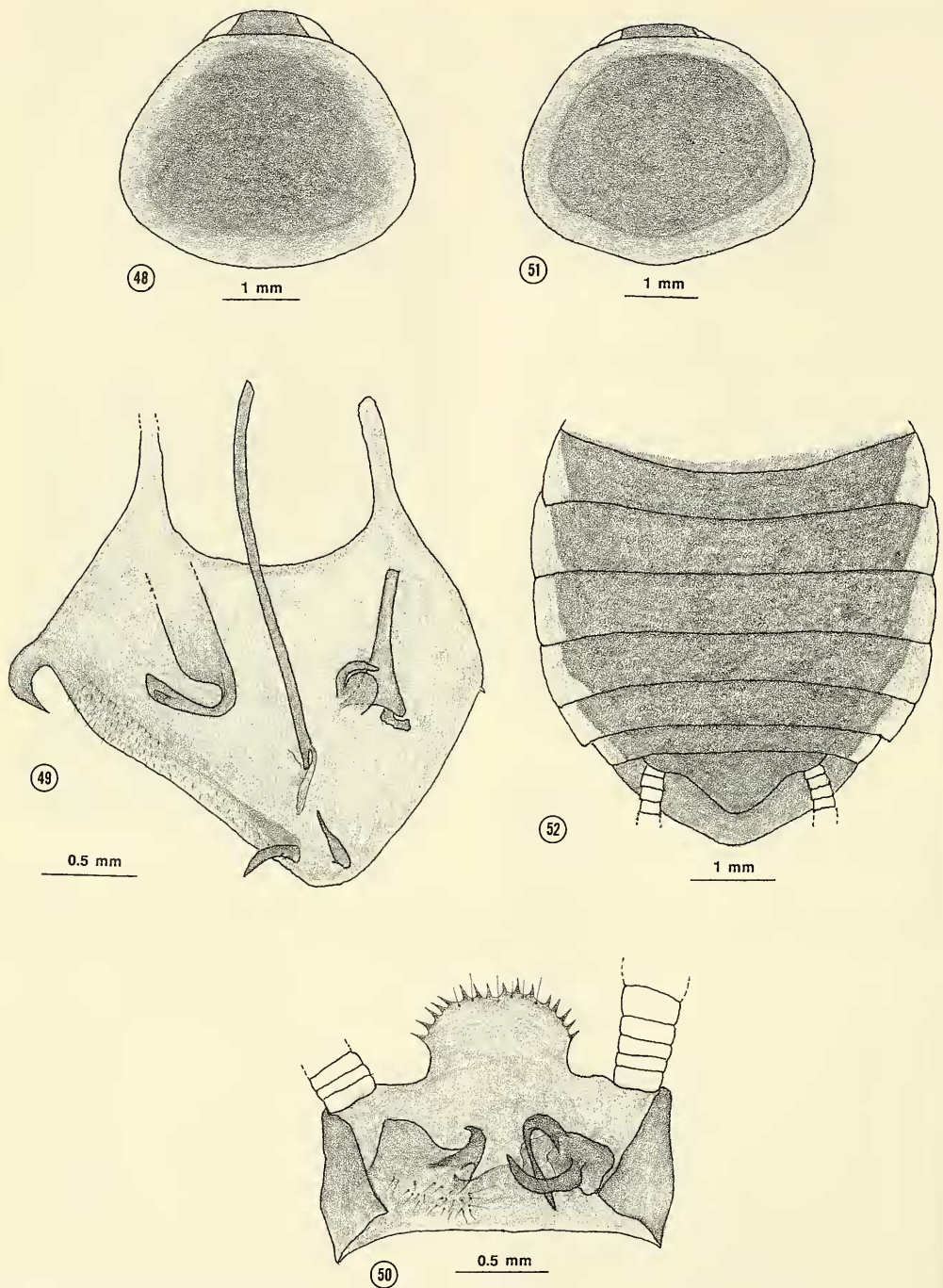
Female: Head slightly exposed, interocular width greater than space between ocelliform spots; antennae not plumose. Pronotum suboval (fig. 51). Tegmina and wings fully developed extending beyond end of abdomen, former with longitudinal discoidal sectors. Hind wing with straight, simple, radial and media veins, cubitus vein straight with two long complete branches, apical triangle absent. Front femur Type B, with four large proximal spines, tarsal claws simple, symmetrical, arolia present. Supraanal plate broadly trigonal, apex rounded (fig. 52).

Colour. – Head black, ocelliform spots and genae yellow, maxillary palpi and antennae black. Pronotum black completely surrounded by a broad yellow margin (fig. 51). Tegmina dark reddish brown, subcostal region yellow-hyaline. Wings dark brownish. Abdominal terga black with triangular yellow marks on the posterolateral corners of segments two to seven or two to six, supraanal plate completely dark (fig. 52). Abdominal sterna black, lateral and hind margins yellowish, basal half of subgenital plate dark, distal half reddish. Legs black, outer margins of coxae yellow.

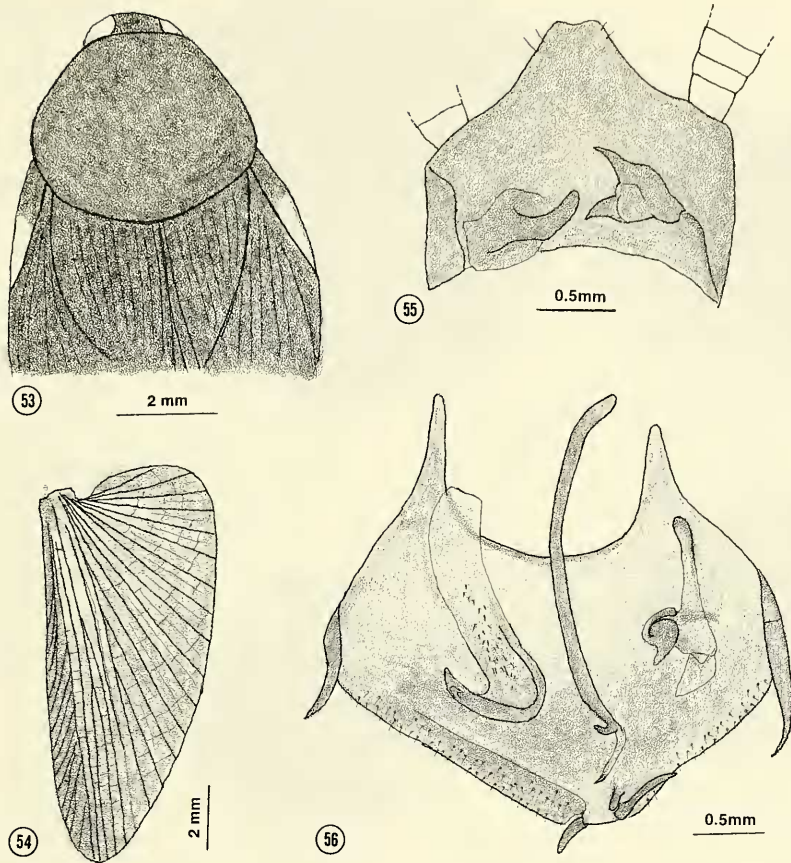
Measurements (mm) (♀ in parentheses). – Length, 10.0 (10.5–13.4); pronotum length \times width, 3.1 \times 4.0 (3.4–3.8 \times 4.3–4.5); tegmen length, 10.5 (10.0–11.7); interocular width, 0.9 (1.1).

Remarks. – *Pseudothyrocera circumcincta* is clearly closely related to *lugubris* because of the similarities of their subgenital plates. Princis (1969: 955) considered the former to be a synonym of the latter. However, there is a distinct difference between their sizes and supraanal plates; also their colours are strikingly different and I prefer to treat them as distinct taxa until additional specimens are studied to show the extent of variation.

Kirby (1904: 77) synonymized *P. circumcincta* (Stål) with *signata* but I am treating them separately. Unfortunately, the latter was based on females only. Brunner incorrectly described the posterolateral corners of the first five abdominal terga as having triangular yellow spots whereas the *signata* holotype has yellow lateral corners on segments three to five (as in *semicincta*, fig. 58). The two females that I have determined as *circumcincta* have a black abdomen with yellow posterolateral corners on terga two to seven (fig. 52), or two to six.



Figs. 48-52. *Pseudothyrocera circumcincta* (Stål). 48-50, male holotype: 48, pronotum; 49, subgenital plate and genitalia (dorsal); 50, supraanal plate and paraprocts (ventral); 51, 52, female from Imugan, Luzon, Philippine Islands: 51, pronotum; 52, abdomen (dorsal) (first tergum not shown).



Figs. 53-56. *Pseudothyrsocera montana* (Shelford), males from Kuching, Sarawak. 53, lectotype, pronotum and proximal region of the tegmina; 54-56, paralectotype: 54, hind wing; 55, supraanal plate and paraprocts (ventral); 56, subgenital plate and genitalia (dorsal).

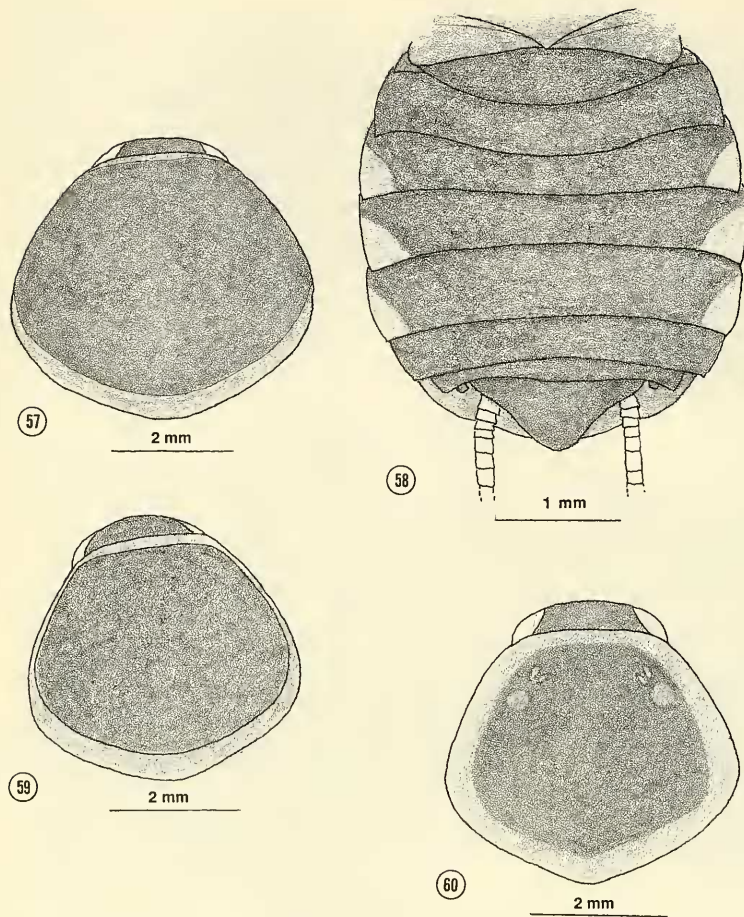
Pseudothyrsocera montana Shelford
(figs. 53-56)

Pseudothyrsocera montana Shelford, 1906: 251 (male). — Shelford 1908a: 5; Hanitsch 1915: 35, 1923: 463; Hebard 1929: 10; Bruijning 1948: 95.

Specimens examined. — Lectotype (here designated), ♂, Mt. Matanga, nr. Kuching, N.W. Borneo [Sarawak], about 3000', vi.1900, pres. 1906 by the Sarawak Museum; Type Orth. 49½ in HECO. Paralectotype. Sarawak. HECO: 1 ♂ (terminalia slide 299), same data as lectotype, Type Orth. 49½.

Redescription. — Male: Head with vertex exposed, interocular space greater than the distance between antennal sockets; antennae slight thickened, not

plumose. Pronotum suboval (fig. 53). Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors. Hind wing with simple radial and media veins, cubitus vein with two complete and no (left wing) or one (right wing) incomplete branches (paralectotype), apical triangle absent (fig. 54). Front femur Type B₃ with seven stout proximal spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present. First abdominal tergum with a group of setae anteromedially. Seventh abdominal terga with a pair of shallow fossae containing symmetrically spaced small setae (seen in slide preparation). Supraanal plate trigonal, sides weakly concave, apex slightly indented, intercercal processes absent, right and left paraprocts with dissimilar spinelike



Figs. 57-60. *Pseudothyrsocera* spp. 57-59, *P. signata* (Brunner): 57-58, female lectotype of *Thyrsocera semicincta* Stål, pronotum, and abdomen; 59, female holotype of *P. signata*, pronotum. 60, *P. circumclusa* (Stål), female lectotype, pronotum.

processes (fig. 55). Subgenital plate asymmetrical, the posterior half trigonal (that portion visible in the pinned specimen), left side roundly thickened, with an elongated process near the middle of the lateral margins, the one on the right side larger; a pair of narrowly separated dissimilar spinelike styles, the right one slightly longer, are located at the apex of the plate (fig. 56; Shelford did not see the right style which was upturned and hidden in the pinned specimen, and he incorrectly stated that there is only one style). Genitalia as in fig. 56: hook on the left side, very large, apex with a preapical incision; median phallosome a curved rod with a very small preterminal process; right phallosome consisting of three sclerites one of them a small cleft.

Female: Unknown.

Colour. – Head, maxillary palpi, antennae, pronotum, meso-, metanotum, and abdominal terga black. Tegmina black with a yellowish spot on the distal half

of the subcostal field (fig. 53).

Hind wings infuscated (fig. 54). Abdominal sterna, coxae and femora reddish; cerci and apices of femora, tibiae, and tarsi, black.

Measurements (mm). Length, 11.5; pronotum length \times width, 4.4 \times 5.4; tegmen length, 14.2; interocular width, 1.4.

Pseudothyrsocera signata (Brunner)
(figs. 57-59)

- Thyrsocera signata* Brunner, 1865: 119 (female).
Pseudomops signata (Brunner). – Walker 1869: 135.
Hemithyrsocera signata (Brunner). – Kirby 1904: 77.
Pseudothyrsocera signata (Brunner). – Shelford 1908a: 5.
Thyrsocera semicincta Stål, 1877: 33 (female). – Sjöstedt 1933: 3.
Hemithyrsocera semicincta (Stål). – Kirby 1904: 77.
Pseudothyrsocera semicincta (Stål). – Princis 1969: 956 (listed as a synonym of *signata*).

Specimens examined. – Holotype ♀ of *Thyrrocera signata* Brunner, Philippines (no exact locality), Thorey, coll. Br. v. W.; in NMWA. Lectotype (here designated; with an unpublished lectotype label written by Princis, 1968), ♀ of *P. semicincta*, Ins. Philipp., no exact locality (Philippine Islands) (with Princis's handwritten '*Pseudophoraspis rufiventris* (Stål), K. Princis, 1968' on back of his 'lectotype' label); in NRSS. Paralectotype. NRSS: same data as lectotype, 1 ♀ (with handwritten label, *rufiventris*, teste Shelford). Additional specimens. – ANSP: no exact locality, 1 ♀, Acc. No. 11998, Bu. of Sci., P.I. (det. as *semicincta* by Hebard 1928).

Redescription. – Female: Head slightly exposed, interocular width greater than distance between ocellar spots and antennal sockets; antennae not plumose. Pronotum suboval (fig. 57). Tegmina and wings fully developed extending beyond end of abdomen, discoidal sectors of former longitudinal. Hind wing with radial and media veins straight, simple, cubitus vein straight with two long complete and no incomplete branches, apical triangle absent. Front femur Type B, with three or four large proximal spines; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present. Supraanal plate trigonal, apex rounded.

Colour. – Head black, genae black; maxillary palpi and antennae black. Pronotum black with a narrow yellow band on anterior margin and on posterior and distal parts of lateral margins (fig. 57, 59). Tegmina black with a yellowish-hyaline mark on distal half of subcostal zone. Hind wing black-hyaline. Abdominal terga black with a large triangular yellow macula in posterolateral corners of segments three to five (fig. 58). Abdominal sterna reddish, or reddish with brown areas medially on proximal half or more. Legs black or brownish black, coxae with yellowish white outer margins. Cerci black.

Male: Unknown.

Measurements (mm). – Length, 13.0–14.0; pronotum length \times width, 4.2–4.3 \times 4.8–5.1; tegmen length, 13.2–15.0; interocular width, 1.2.

Remarks. – Shelford (1908a: 5) listed *P. semicincta* as a synonym of *rufiventris* but the pronotum of the former is incompletely or completely ringed by yellow (figs. 57, 59) which is lacking in *rufiventris* (fig. 38) and I provisionally list the two taxa separately until males are studied. I agree with Princis in considering *semicincta* a synonym of *signata*; the posterolateral corners of three abdominal terga are yellow (fig. 58) in both taxa. There is a slight difference in the yellow border of the pronotum, where it is narrowly complete in *signata* and lacking laterally in *semicincta*.

Pseudothyrocera circumclusa (Stål)
(fig. 60)

Thyrrocera circumclusa Stål, 1877: 34 (female). – Shelford 1908b: 469 (synonymized under *circumcincta*), 1908a: 5 (synonymized under *circumcincta*); Sjöstedt 1933: 3. *Hemithyrrocera circumclusa* (Stål). – Kirby 1904: 77. *Pseudothyrocera circumclusa* (Stål). – Princis 1969: 955 (listed as a synonym of *lugubris*).

Specimens examined. – Lectotype, ♀ (here designated; with an unpublished lectotype label written by Princis, 1968), (abdomen missing), Ins. Philipp., no exact locality, (Philippine Islands) (with handwritten '*Pseudothyrocera lugubris* (Stål), K. Princis, 1968' on back of his lectotype label); in NRSS.

Redescription. – Female: Head exposed, interocular width greater than distance between ocellar spots and antennal sockets. Pronotum suboval, widest behind middle (fig. 60). Tegmina and wings (damaged) fully developed, former with longitudinal discoidal sectors. Front femur Type B, with four large proximal spines, pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present (only one front leg present, all others missing). All but first two abdominal terga missing.

Colour. – Head black, ocellar spots and genae yellow, with two small red dots between antennal sockets. Pronotal disk black completely surrounded by a broad yellow band, and with one round and two smaller red maculae on each side within the dark margins of the disk anteriorly (fig. 60). Only the first two abdominal terga are present and these are dark brown without yellow lateral corners. Legs dark brown, outer margins of coxae whitish.

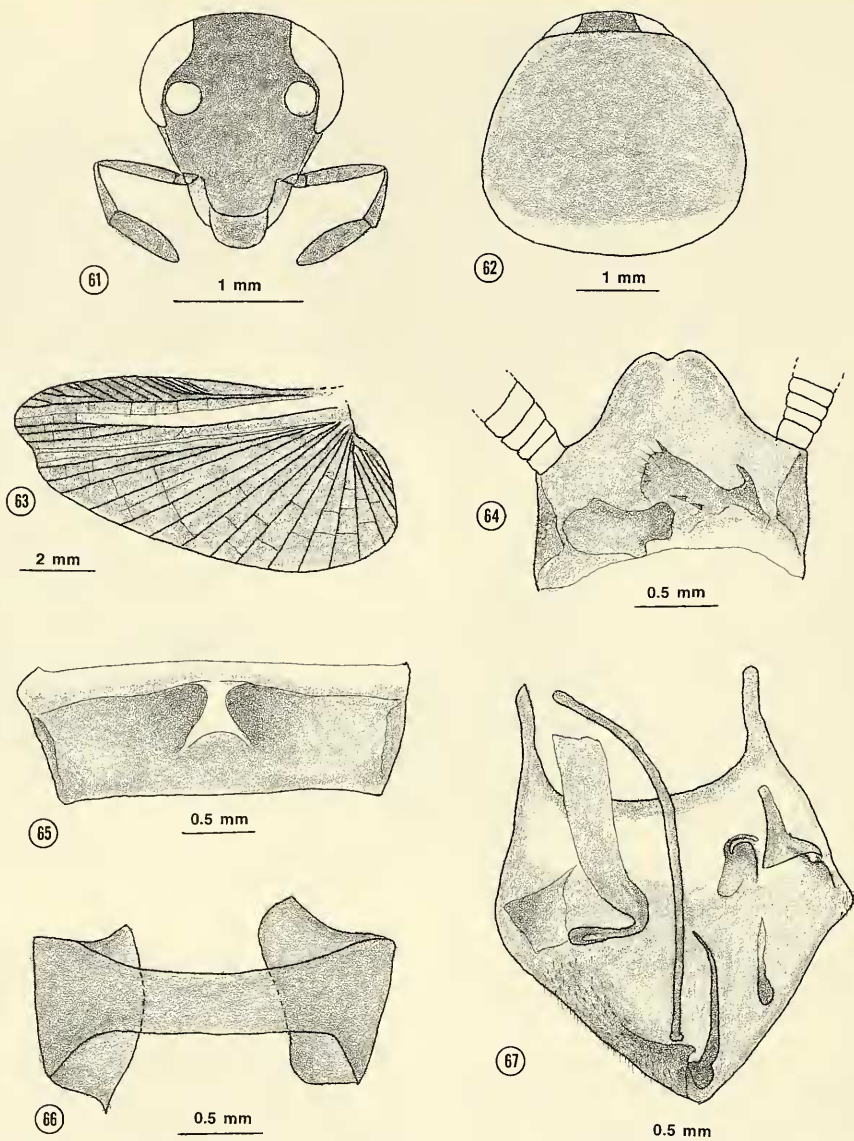
Male: Unknown.

Measurements (mm). – Pronotum length \times width, 3.7 \times 4.3; tegmen length, 11.8; interocular width, 1.1.

Remarks. – Shelford (1908a: 5) synonymized *circumclusa* with *circumcincta*. Princis (1969: 955) listed *circumclusa* as a synonym of *lugubris*, perhaps because of Shelford's synonymy and because Princis believed that *circumcincta* is conspecific with *lugubris*. However, none of the other species of *Pseudothyrocera* have the small red markings on the pronotum present in *circumclusa* and I am listing it separately until the male is discovered.

Pseudothyrocera henrici Hanitsch
(figs. 61–67)

Pseudothyrocera henrici Hanitsch, 1935: 17 (male). – Bruijning 1947: 226; Princis 1969: 954.



Figs. 61-67. *Pseudothyrsocera henrici* Hanitsch, male holotype: 61, head and maxillary palps; 62, pronotum; 63, hind wing; 64, supraanal plate and paraprocts; 65, seventh abdominal tergum; 66, ninth abdominal tergum and laterotergites (dorsal; the laterotergites are turned under the tergum); 67, subgenital plate and genitalia (dorsal).

Specimen examined. – Holotype, ♂ (terminalia slide 5), Latimondjong Mountains, Uru, Sulawesi, 800 m, viii-ix.1930, G. Heinrich; in MNHG.

Redescription. – Male: Head exposed, interocular space about the same as the width between antennal sockets; fifth maxillary palpomere enlarged and

longer than the fourth (fig. 61); antennae not plumose (Hanitsch incorrectly described them as plumose). Pronotum suboval (fig. 62). Tegmina and wings fully developed, extending beyond end of abdomen, the former with simple radial vein, and longitudinal discoidal sectors. Hind wing with simple radial and media veins, cubitus vein with two complete

and no distinct incomplete branches (one small, curved, venule), apical triangle absent (fig. 63). Front femur Type A, (as in fig. 12); pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolium present. First abdominal tergum unspecialized. Seventh abdominal tergum with a pair of shallow depressions anteromedially (hidden by the overlapping sixth tergum) separated by a clear, nonsetose region (fig. 65). Ninth laterotergites weakly dissimilar, the ventral margin of the left one acute at the posterior end, the same margin of the right plate rounded (fig. 66). Supraanal plate produced, symmetrical, hind margin with concave sides, apex shallowly indented; intercercal processes absent; paraprocts dissimilar, the right one with a small spinelike process basally (fig. 64). Subgenital plate, trigonal, asymmetrical, the left side roundly thickened and setose, without a process (also absent on the right side) near the middle; located apically is a long, slender, sclerotized, articulated, erect, spinelike left style; well separated to the right and lying against the surface of the plate, is the smaller, dissimilar right style which is dark on its proximal half and becomes membranous and colourless distally (this style is completely hidden in the pinned specimen; Hanitsch incorrectly stated that styles are absent even though the large left one is exposed in the pinned specimen.) (fig. 67). Genitalia as in fig. 67: hook on the left side with a small preapical structure; median phallomere a simple, apically blunt rod; right phallomere much smaller than the genital hook, consisting of three sclerites, one of them a small cleft.

Colour. – Head with occiput and vertex black, shading into dark reddish brown (fig. 61); palps and antennae dark. Pronotum brownish yellow, lateral borders subhyaline, hind border whitish (fig. 62). Tegmina hyaline, reddish brown, weakly infuscated in the apical region. Wings darkly fuscated, region between the media and cubitus veins mostly colourless (fig. 63). Abdominal terga dark brown, medial gland area on segment seven pale (fig. 65). Abdominal sterna light brownish. Legs dark reddish brown, coxae weakly infuscated. Cerci dark brown on both surfaces, apical segment pale.

Female: Unknown.

Measurements (mm). – Length, 17.0; pronotum length \times width, 2.9×3.2 ; tegmen length, 10.0; interocular width, 0.8.

Remarks. – Hanitsch (1935) stated that *henrici* is closely allied to *xanthophila*, the other *Pseudothyrocera* from Sulawesi, but differs in colour. However, although there are some similarities between the two taxa, (e.g. Type A, front femur, only the seventh abdominal tergum specialized, widely separated styles), I place *henrici* in the *lugubris*-

species-group, and *xanthophila* in the *fulva*-species-group because of differences in the shapes of their subgenital plates.

Pseudothyrocera sinensis (Walker) comb. n.

Ischnoptera sinensis Walker, 1869: 148 (male).

Phyllodromia sinensis (Walker). – Shelford 1908a: 13.

Periplaneta apicalis Shiraki (in part), 1931: 181 (female not male as indicated; female = *Hebardina* sp.). – Asahina 1979: 339.

Synplocce sinensis (Walker). – Bey-Bienko 1950: 155, figs. 54-56 (male & female); Princis 1959: 134 (male).

Episymplocce sinensis (Walker). – Asahina 1979: 339, figs. 1A-C, 3A, 4A-E (male & female); Roth 1987c, 130, figs. 1A-I, 2A-C (redescriptions).

The shape and markings of the tegmina and wings (Asahina 1979, fig. 3A; Roth 1987c, figs. 1H, I) are characteristic of *Pseudothyrocera*. The trigonal shape of the subgenital plate and styles (Roth 1987c, fig. 1C) place the species in the *lugubris*-species-group.

Distribution of *Pseudothyrocera* by species:

circumcincta: Philippines

circumclusa: Philippines

fulva: Sumatra

henrici: Sulawesi

lugubris: Philippines

montana: Sarawak

perkinsi: Malaya

rectangularitervittata: Borneo; Sarawak

rubronigra: Malaya

rufiventris: Philippines

scutigera: Sabah; Sarawak

signata: Philippines

sinensis: Hong Kong; Taiwan

xanthophila: Sulawesi; Sumatra

Distribution by country or regions:

Borneo: *rectangularitervittata*

Hong Kong: *sinensis*

Malaya: *perkinsi*; *rubronigra*

Philippines: *circumcincta*; *circumclusa*; *lugubris*;

rufiventris; *signata*

Sabah: *scutigera*

Sarawak: *montana*; *rectangularitervittata*; *scutigera*

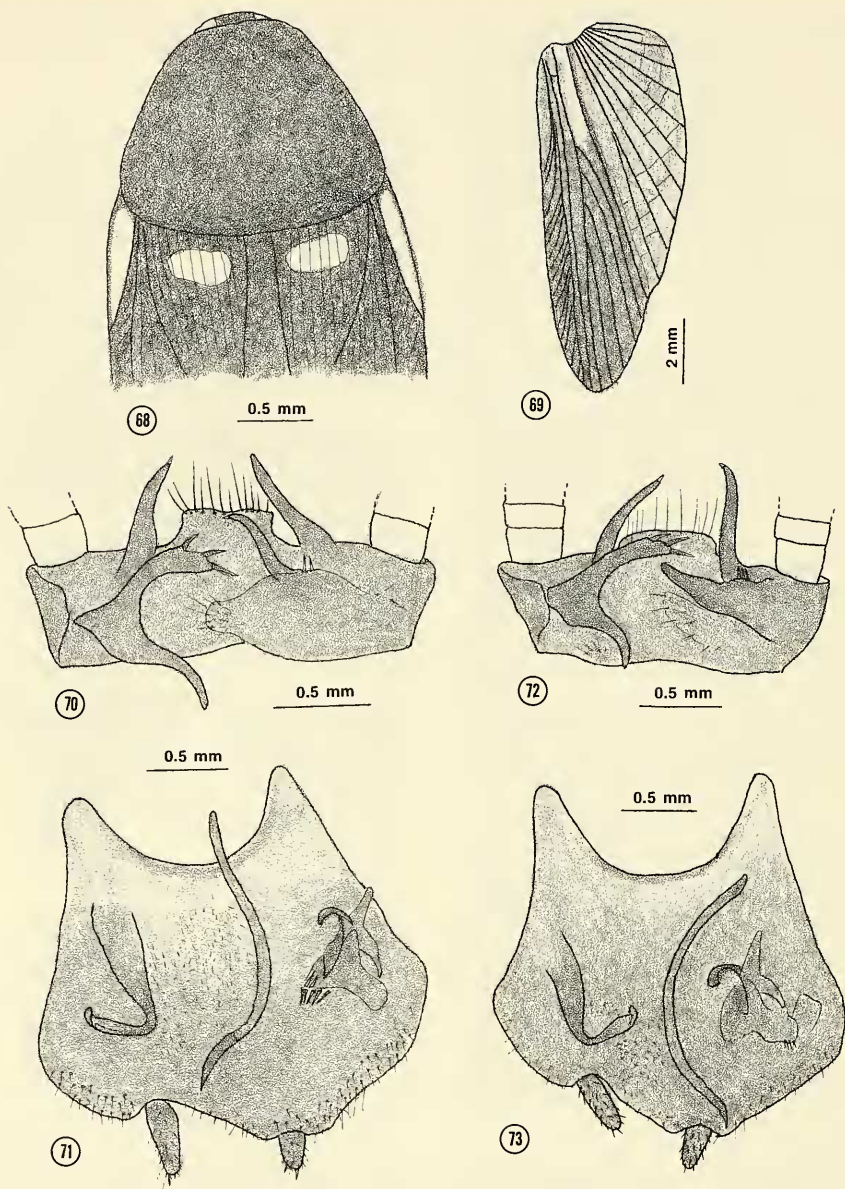
Sulawesi: *henrici*; *xanthophila*;

Sumatra: *xanthophila*

Taiwan: *sinensis*

Genus *Haplosymplocce* Hanitsch

Haplosymplocce Hanitsch, 1933b: 236. – Hanitsch 1933a: 128; Princis 1951: 56 (footnote: selected *Ischnoptera nigra* Hanitsch as the type species).



Figs. 68-73. *Haplosymploce* spp. 68-71. *H. pica* (Walker): 68, pronotum and proximal part of the tegmina (male lectotype); 69, hind wing (♀ paralectotype from Sumatra); 70, 71, male paralectotype from Singapore: 70, supraanal plate, intercercal processes, and paraprocts (ventral); 71, subgenital plate and genitalia (dorsal). 72, 73, *H. ruficollis* (Shelford), male holotype: 72, supraanal plate, intercercal processes, and paraprocts (ventral); 73, subgenital plate and genitalia (dorsal).

Princis (1969: 875) listed six species of *Haplosymploce*, namely: *nigra* Hanitsch, *montis* Shelford, *reversa* Walker, *guttifera* Walker, *walkeri* Princis, and *curta* Hanitsch. *Symploce bicolorata* Roth is a junior synonym of *H. montis*, and *Symploce ferruginea* Roth is a junior synonym of *Haplosymploce nigra*.

Pseudothyrocera pica Walker, *P. ruficollis* Shelford, *P. moultoni* Hanitsch, and *P. andamanica* (Princis) are transferred to *Haplosymploce*. *Blatta guttifera* Walker belongs in the genus *Beybienkoa* Roth, and *Beybienkoa papuensis* (Roth) originally described as a *Symploce* is a junior synonym of *Beybienkoa guttifera*. *Haplosymploce walkeri* Princis (= *Blatta elegans* Walker) is *Hemithyrocera walkeri*. I have not seen *Haplosymploce curta* Hanitsch (male unknown) but am retaining it in that genus until the male is described.

Rediagnosis. – Hanitsch's diagnosis of this genus is: 'Front femur armed after Type A; radial vein both of tegmina and wings simple, ulnar [= cubitus] vein sigmoid, with several complete and one or more incomplete branches, no apical triangle'. A study of the species of *Haplosymploce* listed in Princis's catalogue shows that variation of the above characters makes it difficult to place some of the species in this genus and a rediagnosis follows: Antennae not plumose. Tegmina and wings fully developed, the former with simple radial vein and longitudinal or weakly oblique discoidal sectors. Hind wing with simple radial vein, cubitus vein oblique, or subsigmoid, with three to five complete and zero to four incomplete branches, apical triangle absent. Front femur variable: Type A (fig. 85), or B (figs. 81, 84), (more than one type of femur may occur in the same species); pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia small. Male: First and seventh abdominal terga specialized (figs. 87, 88), or only the first segment with a medial gland. Paraprocts dissimilar, large intercercal processes present on the ventral surface of the subgenital plate near the bases of the cerci (e.g., figs. 70, 74, 82, 90). Subgenital plate asymmetrical, generally similar in shape in all the species (e.g., figs. 71, 73, 83, 91); styles small, similar in shape, equal or slightly different in length, cylindrical, (figs. 71, 73, 83, 91, 100). Genital hook on the left side, with a preapical incision; median phallomere a stout or slender rod, sometimes with a setal patch near the acute apex (figs. 80, 83, 100).

Remarks. – The shapes of the male subgenital plate and styles, are similar in all species of *Haplosymploce*. I place eight of the ten species of *Haplosymploce*, whose males are known, in the following two species groups:

1. *pica*-species-group. – Only the first abdominal tergum specialized. Front femur Type A. Cubitus vein of hind wing with three or four complete and no incomplete branches. Species: *bicolor*; *moultoni*; *pica*; *ruficollis*.

2. *nigra*-species-group. – First and seventh abdominal terga specialized. Front femur Type A or B. Cubitus vein of hind wing with four or five complete and two or three incomplete branches. Species: *andamanica*; *montis* (= *bicolorata*); *nigra* (= *ferruginea*); *reversa*.

Key to known males of *Haplosymploce*

1. Only the first abdominal tergum specialized. Front femur Type A. Cubitus vein of the hind wing with three or four complete and no incomplete branches. (*pica*-species-group) . . . 2
- Abdominal terga one and seven specialized. Front femur Type A or B. Cubitus vein of hind wing with four or five complete and two or three incomplete branches. (*nigra*-species-group) 4
- 2 (1) Tegmina yellowish, with the basal and apical regions black. Wings with base and apex black (figs. 76, 77) *bicolor*
- Tegmina with pale spots in the subcostal zone and bases of the anal zone (figs. 68) 3
- 3 (2) Pronotum black *pica*
- Pronotum red *ruficollis*
- 4 (1) Pronotal disk with a solid dark macula surrounded by pale orange-yellow (fig. 93)
- Pronotal disk completely dark 5
- 5 (4) Tegmina pale yellowish-white, transparent, strikingly lighter than the dark pronotum (fig. 8A in Roth 1985b) *montis* (= *bicolorata*)
- Tegmina and pronotum dark 6
- 6 (5) Femora pale with their apices dark brown (figs. 84-86). Supraanal plate, paraprocts, and intercercal processes as in fig. 90 *reversa*
- Femora completely dark (as in fig. 81). Supraanal plate, paraprocts, and intercercal processes as in fig. 82, and figs. 10F, G, in Roth 1985b *nigra* (= *ferruginea*)

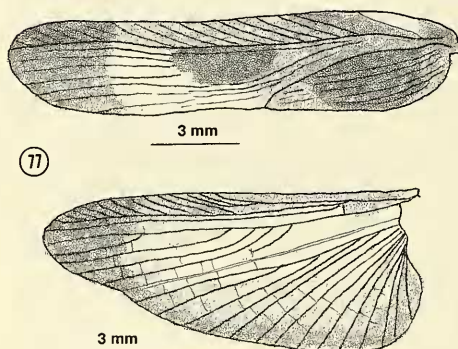
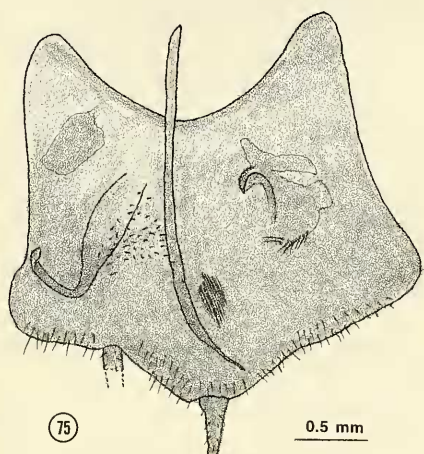
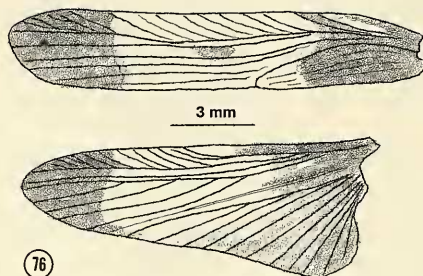
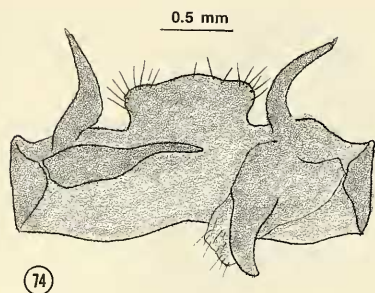
pica-species-group

Haplosymploce pica (Walker) comb. n.
(figs. 68-71)

Pseudomops pica Walker, 1868: 213 (male).

Thyrocera pica (Walker). – Kirby 1904: 78.

Pseudothyrocera pica (Walker). – Shelford, 1906: 250, 1907: 488; 1908a: 5, pl. 1, fig. 3 [habitus]; Hanitsch 1915: 34, pl. 7, fig. 37 (male) [habitus], 1919: 72, 1923: 463; Hebard 1929: 10; Bruijning 1948: 95.



Figs. 74-77. *Haplosymploce* spp. 74-76, *H. bicolor* (Shelford), male holotype: 74, supraanal plate, intercercal processes, and paraprocts (ventral); 75, subgenital plate and genitalia (dorsal); 76, left tegmen (top) and hind wing (bottom). 77, *H. moultoni* (Hanitsch), female holotype, left tegmen (top) and hind wing (bottom).

Specimens examined. — Lectotype, ♂ (here designated), (terminalia slide 296), Singapore, Wallace, Mr. Saunder's collection; Type Orth. 47 $\frac{1}{3}$ in HECO. Paralectotypes. Singapore. HECO: 1 ♂ (terminalia slide 297), same data as lectotype, Type Orth. 47 $\frac{1}{3}$. Sumatra. HECO. 1 ♀, Wallace, in Mr. Saunder's Collection, Type Orth. 47 $\frac{1}{3}$.

Redescription. — Male: Head with interocular space greater than the width between antennal sockets; fifth maxillary palpomere longer than the fourth; antennae with proximal and distal segments not plumose, the antennomeres between them thickened and densely plumose. Pronotum subparabolic, smooth, hind margin rounded (fig. 68). Tegmina and wings fully developed extending beyond the end of the abdomen, the former with longitudinal discoidal sectors. Hind wing with simple radial vein, cubitus

vein with three or four complete and no incomplete branches, apical triangle absent (fig. 69). Front femur Type A, with four long proximal spines succeeded by a row of short stout equal spines (stouter than spinules), pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum with a median setose gland. Seventh abdominal tergum unspecialized. Supraanal plate symmetrical, transverse, median region broadly produced and setose; intercercal processes large, paraprocts dissimilar, the left one sclerotized with three terminal spines (fig. 70). Subgenital plate asymmetrical, left side of hind margin shallowly excavated, with a pair of cylindrical styles, the left one larger (fig. 71). Genitalia as in fig. 71: hook on the left side with a preapical incision and with a minutely spicular clear membrane; median phallomere a curved, apically acute rod; right phallomere consisting of three scler-

rites one a cleft, another with four or seven small spines.

Female: Front femur with five or six long proximal spines succeeded by a row of slender spinules and terminating in three heavy spines (Type B.). Supraanal plate trigonal, sides weakly concave, apex rounded, reaching hind margin of subgenital plate.

Colour. – Head black, shiny; maxillary palpomeres and antennae black. Pronotum black. Tegmina black with subcostal (mediastine) area white, and with a large, white macula at the base of the anal field (fig. 68). Hind wing darkly infuscated except for a colourless proximal region in the anterior field (fig. 69). Abdomen black. Coxae with basal region black, distally and part of the outer border whitish; femora, tibiae and tarsi black.

Measurements (mm) (♀ in parentheses). Length, 9.8 (11.2); pronotum length \times width, 3.3–3.6 \times 3.6–3.9 (3.9 \times 4.2); tegmen length, 11.5–12.0 (13.3); interocular width, 1.1–1.2 (1.4).

Remarks. – The subgenital plate, styles and genitalia are similar to those of *Pseudothyrocera ruficollis* (see remarks below, under that species).

Hapsymploce ruficollis (Shelford) comb. n.
(figs. 72–73)

Pseudothyrocera ruficollis Shelford, 1906: 251, pl. 14, fig. 6 (habitus) (male). – Shelford 1908a: 5; Hanitsch 1915: 35, pl. 7, fig. 36 (habitus), 1923: 463; Hebard 1929: 10; Bruijning 1948: 95.

Specimen examined. – Holotype, ♂ (terminalia slide 298), Penang [Pinang, Malaysia], Cantor; Type Orth. 48 in HECO.

Redescription. – Male: Head with interocular space greater than the distance between antennal sockets; antennae missing. [When Shelford described the species, the antennae were mutilated. He stated that when intact specimens are found the basal half of the antennae probably would be plumose, as in *pica*. Hanitsch (1915: 35) did see two additional specimens from Sarawak and Selangor, and found that the antennae are plumose]. Pronotum subparabolic. Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors. Hind wing with simple radial and media veins, cubitus vein with three complete and no incomplete branches, apical triangle absent. Legs missing. First abdominal tergum with a setose gland. Seventh abdominal tergum unspecialized. Supraanal plate with the median region produced, intercercal processes large, similar, paraprocts dissimilar, the left

one with three terminal spines (fig. 72). Subgenital plate asymmetrical, the hind margin on the left side weakly excavated, with a pair of similar, widely separated styles (fig. 73). Genitalia as in fig. 73: hook on the left side with a preapical incision; median phallomere a slender, curved, apically acute rod; right phallomere consisting of four sclerites one of which is a small cleft.

Colour. – Head and pronotum red; maxillary palpi and antennae black. Tegmina black with a yellowish-white macula on the subcostal (mediastinal) region and at the base of the anal field. Wings dark brown, pale in the proximal region, veins mostly dark (yellowish at the bases of the veins in the anterior and posterior fields). Coxae with their outer borders and distal ends yellowish-white.

Female: Unknown.

Measurements (mm). – Length, 12.0; pronotum length \times width, 3.7 \times 4.2; tegmen length, 13.2; interocular width, 1.3.

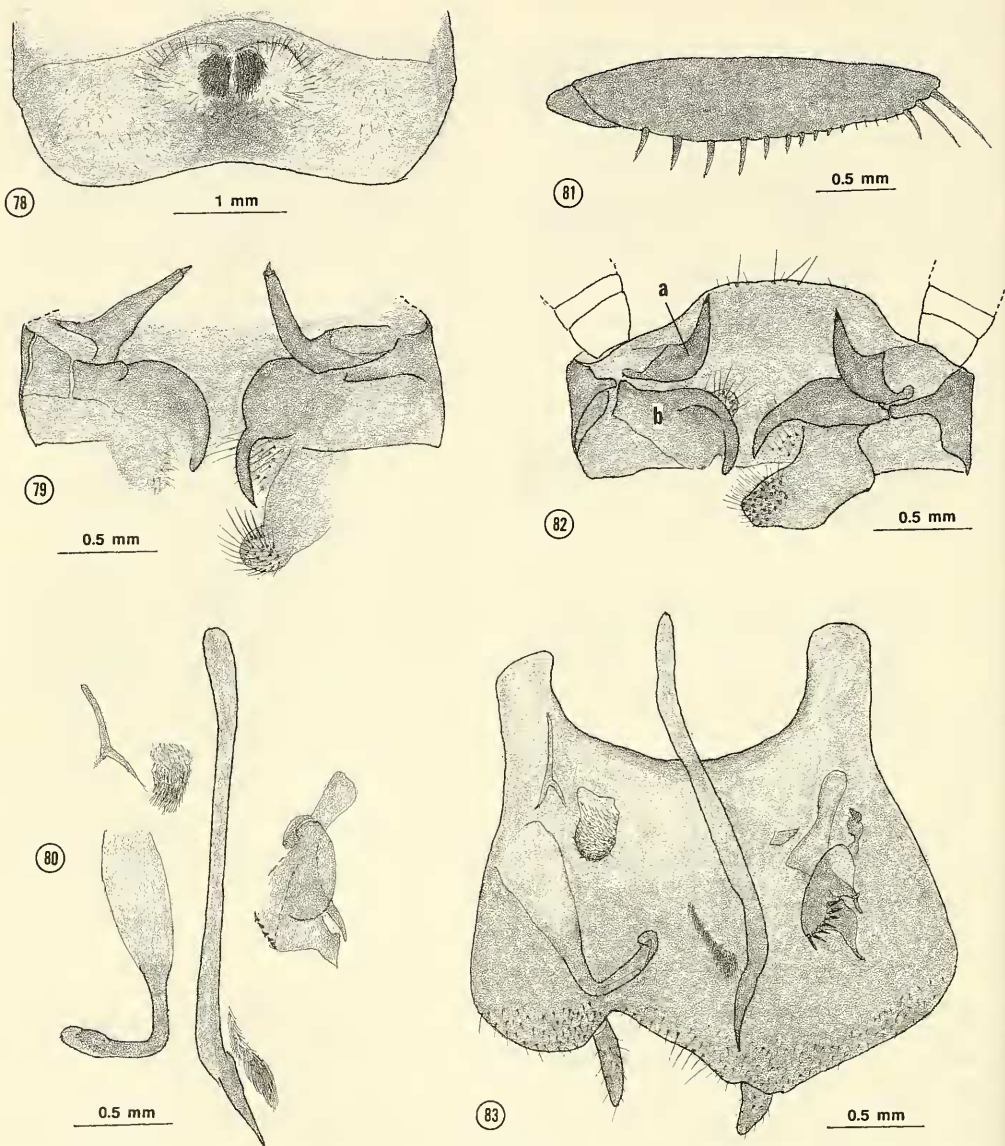
Remarks. – Shelford (1906: 251) was correct in saying that *ruficollis* is most closely allied to *pica*, a conclusion supported by the strong similarity in the two species of the subgenital plate, styles, genitalia, supraanal plate, paraprocts, and intercercal processes (cf. figs 70, 71 with 72, 73). In fact, *ruficollis* may eventually prove to be a colour variant of *pica*. The tegminal colour and markings are similar (the medial macula is much larger and more distinct in *moultoni*), but the colour differences of the head and pronotum are strikingly different and readily separate the two taxa.

Hapsymploce bicolor (Shelford) comb. n.
(figs. 74–76)

Pseudothyrocera bicolor Shelford, 1909: 612 (male). – Hanitsch 1915: 36 (male), 1923: 463; Hebard 1929: 10; Bruijning 1948: 94; Princis 1969: 955.

Specimen examined. – Holotype, ♂ (terminalia slide 300), Mt. Matang, N.W. Borneo [Sarawak], vi.1900; Type Orth. 50 in HECO.

Redescription. – Male: Head with interocular space greater than the distance between the antennal sockets; about the basal two thirds of the antennae densely plumose. Pronotum suboval. Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors (fig. 76, top). Hind wing with simple radial and media veins, cubitus vein with four complete (not five as stated by Shelford) and no incomplete branches, apical triangle absent (fig. 76, bottom). Front femur



Figs. 78-83. *Haplosymploce* spp. males. 78-80, *H. montis* (Shelford), holotype: 78, seventh abdominal tergum; 79, subgenital plate, interceral processes, and paraprocts (ventral); 80, genitalia (dorsal). 81-83, *Haplosymploce nigra* Hanitsch: 81, (lectotype) front femur (anterior surface); 82, 83 (paralectotype): 82, supraanal plate, interceral processes, and paraprocts (ventral; a, left interceral process; b, left paraproct); 83, subgenital plate and genitalia (dorsal).

Type A₁, or A₂ (the first of the four terminal spines is only slightly longer than the one preceding it); pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum with

a setal specialization. Seventh abdominal tergum unspecialized. Supraanal plate transverse, symmetrical, midregion of the hind margin produced, interceral processes, large, similar, right and left paraprocts dis-

similar (fig. 74). Subgenital plate almost symmetrical, styli widely separated (fig. 75; Shelford (1909) stated that the left style is much longer than the right one; however, the slide preparation shows that the left style is damaged and is missing the distal region.). Genitalia as in fig. 75: hook on the left side with a preapical incision; median phallomere a slender, apically acute rod and near the apex, but separated from it, is a small, dark, dense group of setae; right phallomere consists of three sclerites one of which is a cleft.

Colour. – Head black; maxillary palpi black; basal two thirds of the antennae black, the distal third beyond the plumose region, yellow. Pronotum black. Proximal and apical region of the tegmina black, the intermediate zone yellowish with a small dark spot in the middle, and with a yellowish spot in the subcostal region (fig. 76, top). Wings with base and apex blackish, remainder hyaline (fig. 76, bottom). Abdominal terga and sterna black. Legs black except for the coxae whose apical halves and outer margins are yellowish.

Female: Unknown.

Measurements (mm). – Length, 11.5; pronotum length \times width, 4.4×5.4 ; tegmen length, 14.2; interocular width, 1.4.

Remarks. – The striking colour of the tegmina and wings readily identify this species.

Haplosymploce moultoni (Hanitsch) comb. n. (fig. 77)

Pseudothyrsocera moultoni Hanitsch, 1915: 36, pl. 3, fig. 16 (female). – Hanitsch 1923: 463; Hebard 1929: 10; Bruijning 1948:95; Princis 1969: 955.

Specimen examined. – Holotype ♀, Mt. Merinjak, Sarawak, 2200 feet, 19.v.1914, Moulton; Type Orth. 260 in HECO (The specimen is fragmented and parts are mounted on cards.)

Redescription. – Female: Head with interocular space greater than the distance between antennal sockets; antennae missing (according to Hanitsch, the antennae are plumose). Pronotum parabolic. Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors (fig. 77, top). Hind wing with simple radial and media veins, the cubitus vein with four complete and one incomplete branches, apical triangle absent (fig. 77, bottom). Front femur Type A; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. Supraanal plate damaged.

Colour. – Head reddish brown with a large black macula on the genae; antennae black, except for a few distal white segments, terminal antennomeres black (from Hanitsch). Tegmina reddish brown with three large maculae, one occupying almost the entire anal field, a second medially, and the third at the apex (fig. 77, top). Hind wing with apical region of the anterior field dark brown and black, remaining region yellowish; posterior field infuscated, darker basad and posteriorly (fig. 77, bottom). Abdomen reddish brown. Legs with coxae black basally, yellowish distally and along the outer border, femora black with a yellowish band along the ventral margin, tibiae, tarsi, and cerci black.

Male: Unknown.

Measurements (mm). – Length, 12.5; pronotum length \times width, 4.6×5.3 ; tegmen length, 14.3; interocular width, 1.5.

Remarks. – Based on the colour and pattern of the tegmina and wings, *moultoni* and *bicolor* may prove to be synonyms when the male of the former is found, and larger series are examined to determine the extent of colour variation.

Haplosymploce montis (Shelford) (figs. 78-80)

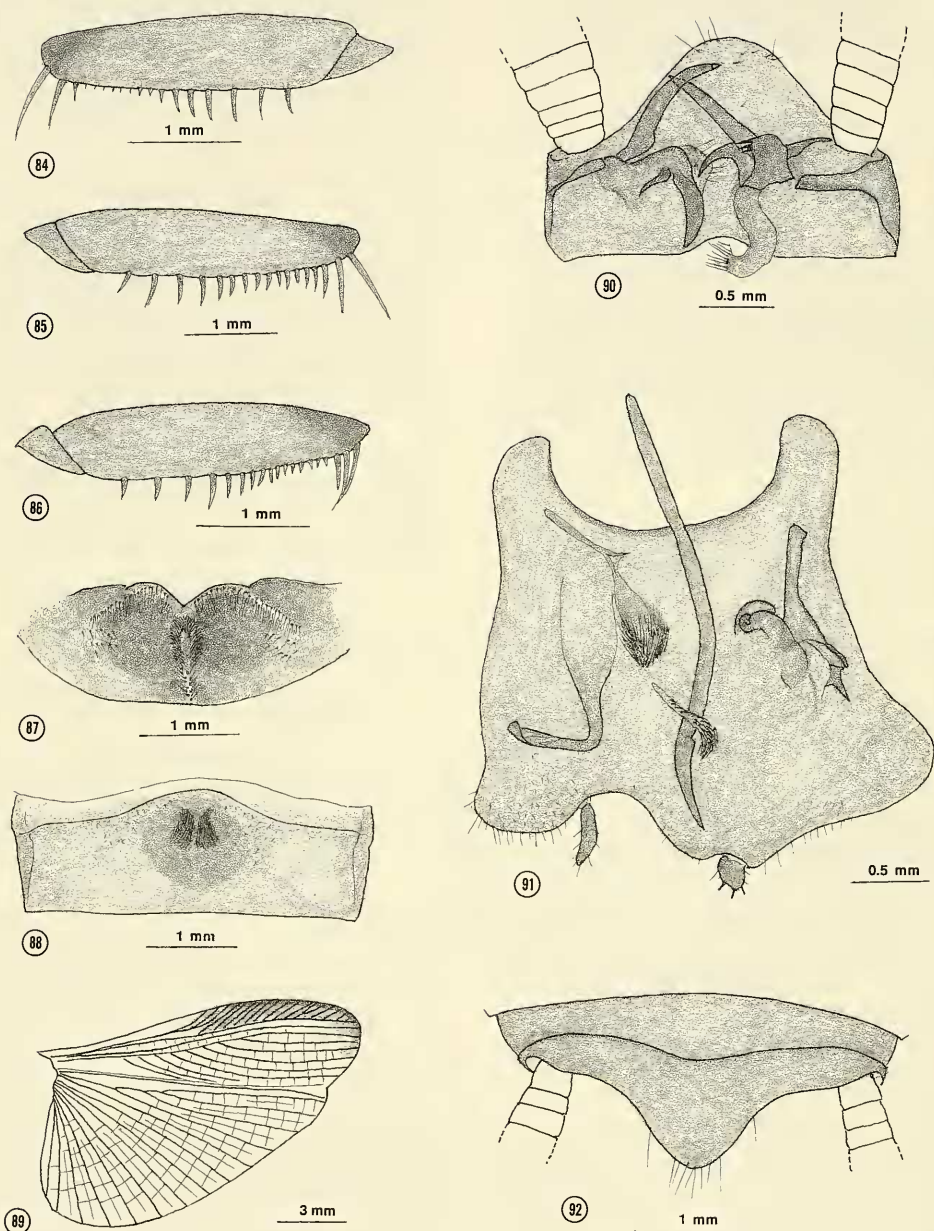
Ischnoptera montis Shelford, 1906: 266, pl. XVI, fig. 10 (male). – Shelford 1908a: 7; Hanitsch, 1915: 39, 1923: 463.

Parasymploce montis (Shelford). – Hebard 1929: 10.

Haplosymploce montis (Shelford). – Bruijning 1948: 76, figs. 13, 37; Princis 1950a: 178.

Symploce bicolorata Roth, 1985b: 148, figs. 8, 9 (male not female, see remarks). Syn. n.

Specimens examined. – Holotype ♂ of *Ischnoptera montis* Shelford (terminalia slide 258), N.W. Borneo, Sarawak, Mt. Matang nr Kuching, 2.v.1902, pres. 1905 by the Sarawak Museum; Type Orth. 57, in HECO. Additional specimens. – Sabah. RMNH: N. Borneo, 12.5 km S. Nabawan, Kg. Pamuntaria, nr. river, 116.27E 5.02N, 400 m, 1♂, 16.xi.1987, J. Huisman & R. de Jong. BPBM: Tawau, Quoin Hill, Cocoa Res. Sta., light trap, ♂ holotype No. 13472 (wing on slide 214), 17.ix.1962, and 1♂ paratype (terminalia slide 213), 3.ix.1962, Y. Hirashima, of *Symploce bicolorata* Roth; Tawau, Quoin Hill, Cocoa Res. Sta., Malaise, 225 m, 2♂, 20.ix.1962, Y. Hirashima, in jungle, light trap, 2♂, 3-7.vii.1962, H. Holtmann; Forest Camp, 19 km north of Kalabakan, 1♂, 1.xi.1962, 60 m, 1♂, 27.x.1962, K.J. Kuncheria. ZILS: Malaysia, Sabah, Sipitang, Mendolong, 1♂, 25.xi.1987, AIL, 1♂, 5.iv.1988, 1♂, 30.iv.1988, 1♂, 6.iv.1988, 3♂, 5.v.1988, 1♂,



Figs. 84-92. *Haplosymploce reversa* (Walker). 84-85, front femora (anterior surfaces); male and female respectively, from Kedah Peak; 86-91, male holotype: 86, front femur (anterior surface); 87, first abdominal tergum (pinned specimen); 88, seventh abdominal tergum (slide preparation); 89, hind wing; 90, supraanal plate, intercercal processes, and paraprocts (ventral); 91, subgenital plate and genitalia (dorsal); 92, female from Kuala Lumpur, supraanal plate (dorsal).

iii.1989, S. Adebratt. Two retained at MCZC. Malaya. BPBM: Malay Pen., S.E. Pahang, Rompin Mining Co., Railway Track, 50 km, 1♂, 9.iv.1961, K.J. Kuncheria. Sumatra. RMNH: Tanangtalu, 1♂, v.1915, E. Jacobson. ZMAN: Bandar Baru, 850 m, 1♂, ii.1921, J.B. Corporaal (Sumatran specimens reported by Bruijning 1948: 76).

Remarks. – The distal parts of the supraanal and subgenital plates (and styles) are missing from the type of *montis* but the intercercal processes and paraprocts (fig. 79), genital phallomeres (fig. 80), and the specializations on the seventh (fig. 78) and first abdominal terga are intact. The front femur is Type A, but the row of preterminal spines are small and similar in length but stouter than piliform spinules; other specimens of *montis* have Type B, or intermediate between A₁ and B₁ (a mixture of piliform spinules and stout spines of the same length). These structures, as well as the distinctive colour pattern of dark reddish brown pronotum and pale yellowish-white semi-transparent tegmina (although there is some variation in the pronotal colour, some being lighter than others) are so similar to those of *Symploce bicolorata* Roth (1985c: fig. 8) that I am synonymizing the two species. The measurements (mm) of the present male specimens are as follows: Length, 11.0–16.0; pronotum length × width, 3.5–4.0 × 4.1–4.6; tegmen length, 14.0–15.0; interocular width, 0.8.

The female paratype of *S. bicolorata* from Pelawan besar, Kalimantan, is not *Haplosymploce montis* but is possibly a species of *Symploce*.

Haplosymploce nigra (Hanitsch)
(figs. 81–83)

Ischnoptera nigra Hanitsch, 1928: 15, pl. 1, fig. 6 (male).

Haplosymploce nigra (Hanitsch), 1933b: 237; Bruijning 1948: 76; Princis 1969: 875.

Symploce ferruginea Roth, 1985b: 152, figs. 10, 11 (male and female). *Syn. n.*

Specimens examined. – Lectotype, ♂ (here designated), Mentawe[al] Island, Siberoet, 15.ix.1924, H.H. Karny; Type Orth. 325 $\frac{1}{2}$, in HECO. Paralectotype: Sumatra. HECO: N. Pagi Island, West Sumatra, Type Orth. 325 $\frac{1}{2}$, 1♂ (terminalia slide 256), x.1924, C.B.K. & N.S. Additional specimens. – West Malaysia. HECO: Pahang, Fraser's Hill, 4000 ft., ♂ holotype (terminalia slide 193) of *Symploce ferruginea* Roth (Type Orth. 970), 1.vi.1932, H.M. Pendlebury. Sabah. BPBM: Forest Camp, 19 km north of Kalabakan, 60 m, light trap, ♀ paratype of *Symploce ferruginea* Roth, 29.x.1962, Y. Hirashima. zils: Malaysia, Sabah, Sipitang, Mendolong, 1♀, 29.xii.1987, A1L, 1♀, iii.1988, 1♀, 5.iv.1988, 1988,

1♀, 6.iv.1988, 1♀, 5.v.1988, W5L, 1♀, 19.iv.1988, S. Adebratt. Two retained in MCZC. RMNH: Malaysia-SE. Sabah, nr. Danum Valley Field C., c. 150 m, WO Mal. trap 5, 1♀, 20.vi.–12.vii.1987, C. v. Achterberg & D. Kennedy; N. Borneo, Sabah, 24 km on rd. Keningau-Kimanis (N. side), 116.03E 5.27N, 1350 m, 1♀, 19.xi.1987, J. Huisman & R. de Jong.

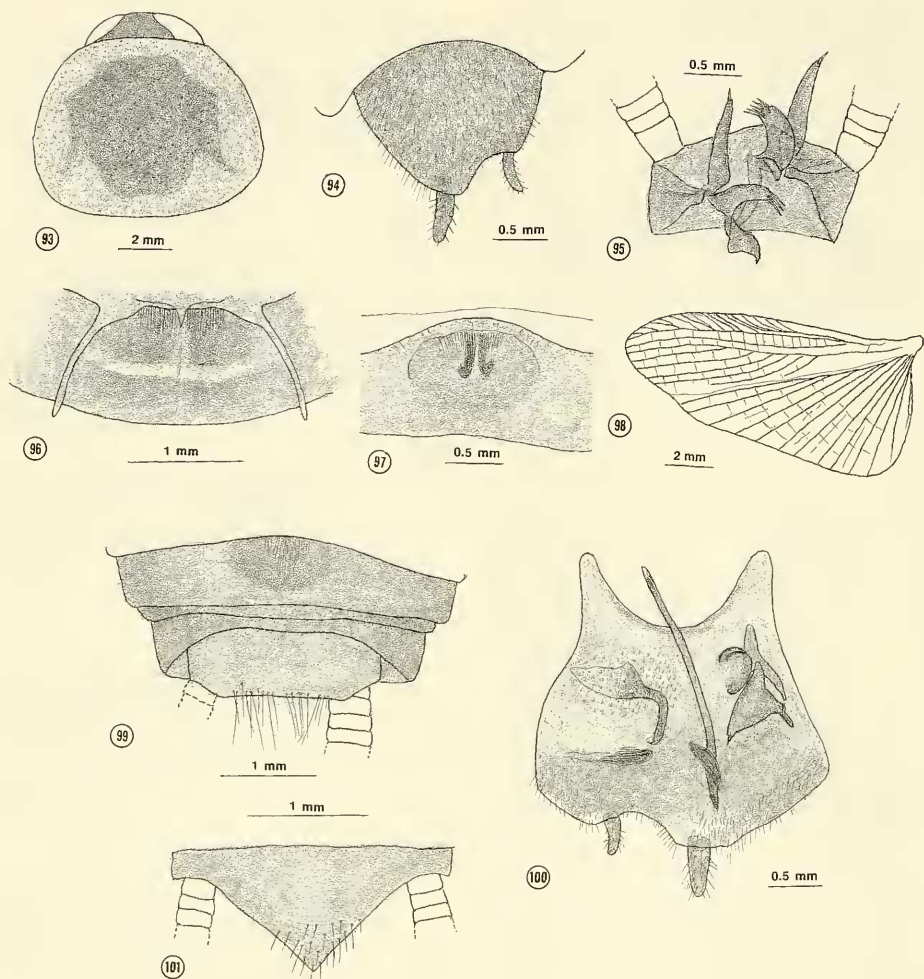
Redescription. – Male: Head hidden, interocular space about the same as the distance between antennal sockets. Pronotum suboval. Tegmina and wings fully developed extending beyond end of abdomen, the former with simple radial vein and weakly oblique discoidal sectors. Hind wing with simple radial vein, cubitus oblique, weakly sigmoid, with four or five complete and two or three incomplete branches, apical triangle absent (Hanitsch 1928: pl.1, fig. 6). Front femur with eight or nine stout proximal spines, the basal five or six about equal in length, the others much smaller, succeeded by five to eight piliform spinules and three large terminal spines (fig. 81) [Type B₁; Hanitsch (1928: 15) stated that the anterior edge of the front femur of *nigra* has '... 4 large spines, followed by 5 shorter ones (type A)'; actually the stout spines are succeeded by a short row of piliform spinules which classify the femur as Type B₁; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum with a large depression and a dense group of setae medially. Seventh abdominal tergum with a depression and large medial tuft of setae. Supranal plate, paraprocts, and intercercal processes as in fig. 82. Subgenital plate and genitalia as in fig. 83.

Female (illustrated in Roth, 1985b, figs. 11A–C). Front femur Type A. Cubitus vein of hind wing oblique or subsigmoid, with six or seven complete and three incomplete branches, apical triangle absent. Supraanal plate trigonal.

Colour. – Varies from dark reddish brown to blackish brown. Legs (femora, tibiae, tarsi), and cerci dark. Wings dark brown.

Measurements (mm) (♀ in parentheses). – Length, 10.2–10.7 (12.0–18.0); pronotum length × width, 3.3–3.4 × 4.0–4.1 (4.3–4.7 × 5.2–5.8); tegmen length, 11.5–12.5 (16.5–19.5); interocular width, 0.9 (0.9–1.0).

Remarks. – I am synonymizing *ferruginea* with *nigra* because the differences between their males are minor. Similarities between the intercercal processes, paraprocts, and genitalia suggest a close relationship between *Haplosymploce nigra* and *H. montis* (cf., figs. 79, 80, with 82 and 83).



Figs. 93-101. *Haplosymploce andamanica* (Princis), types. 93-100, male holotype: 93, pronotum; 94, subgenital plate (ventral); 95, supraanal plate, paraprocts, and intercercal processes (ventral); 96, glandular region on first abdominal tergum; 97, gland on seventh abdominal tergum (slide preparation); 98, hind wing; 99, abdominal terga seven to ten (supraanal plate); 100, subgenital plate and genitalia (dorsal); 101, female paratype, supraanal plate (dorsal).

Haplosymploce reversa (Walker)
(figs. 84-92)

Ischnoptera reversa Walker, 1869: 147 (male). – Kirby 1904: 81; Shelford 1907: 489, 1908a: 7; Hanitsch 1915: 37, 1923: 398.

Parasymploce reversa (Walker). – Hebard 1929: 10.

Haplosymploce reversa (Walker). – Bruijning 1948: 78, fig. 38; Princis 1969: 875.

Specimens examined. – Holotype, ♂ (terminalia slide 257), Singapore, Wallace, W.W. Saunders coll.,

purch. and pres. '73 by Mrs. F.W. Hope; Type Orth. 54 in HECO [Mr. I. Lansbury informed me that the holotype was almost totally destroyed in the return mail; he placed the remnants in a 'container' and attached it to the type pin]. Additional specimens. – West Malaysia. HECO: Kuala Lumpur, Malay Pen., 1 ♀, ex coll. Dept. Agric.; Kedah Peak, 3300 ft., 1 ♂, 11.iii.1928, 1 ♀, 25.iii.1928.

Redescription. – Male: Interocular space slightly

less than distance between antennal sockets. Pronotum subparabolic. Tegmina and wings fully developed extending beyond end of abdomen, the former with simple radial vein and longitudinal discoidal sectors. Hind wing with simple radial vein, cubitus vein with five complete and three or four incomplete branches, apical triangle absent (fig. 89), the triangular region folded when at rest. Front femur Type A, (fig. 86, holotype; six spines preceding the three long terminal spines are small and about the same length but are stouter than piliform spinules) (the femur of a male from Medan, Sumatra, also is Type A, see Bruijning 1948: 78, fig. 38), or Type B, with nine stout proximal spines decreasing in length distad, succeeded by six piliform spinules and terminating in three large spines (fig. 84, ♂ from Kedah Peak, West Malaysia); pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum with a pair of deep fossae divided medially by a longitudinal ridge bearing a dense group of setae and with setae along the anterior margins of the fossae (fig. 87). Seventh abdominal tergum with two, almost contiguous groups of setae in a shallow depression (fig. 88; this gland may be hidden by the overlapping sixth tergum). Supraanal plate symmetrical hind margin convexly rounded, entire; intercercal processes weakly dissimilar, spinelike, right and left paraprocts dissimilar, the right one with a curved, spinelike process and a dark sclerite bearing three small, dark, spines (fig. 90). Subgenital plate asymmetrical with dissimilar styles, the left one more slender (fig. 91). Genitalia as in fig. 91: hook on the left side with a preapical incision; also on the left side is a setose sclerite; median phallomere a dark, curved, apically acute rod with a small setose sclerite near the apex; right phallomere consisting of at least two sclerites one of which is a reduced cleft.

Female: Intercercal space about the same as distance between antennal sockets. Cubitus vein of hind wing with five or six complete and two incomplete branches, apical triangle absent. Front femur Type A, (sometimes the last four or five spines are longer than the preceding ones thus appearing to be Type A, or A, as in fig. 85). Supraanal plate subtrigonal, sides of the hind margin concave, apex rounded (fig. 92).

Colour. – Head reddish brown without markings; proximal segments of antennae dark brown, remainder light brown; segments four and five of maxillary palpi and last segment of labial palpi dark brown, other segments pale. Pronotum reddish brown, without markings, lateral borders opaque. Tegmina hyaline, reddish brown. Hind wing with costal vein region yellowish, its margin darkened (fig. 89), veins yellowish. Abdominal terga and sterna reddish brown. Basal half of dorsal surface of the cerci light

brown, distal half and ventral surface dark brown. Coxae and most of the femoral surface reddish brown, apices of the femora (figs. 84–86), tibiae and tarsi dark brown.

Measurements (mm) (♀ in parentheses). – Length, 13.5 (13.5–14.7); pronotum length \times width, 3.6–4.0 \times 4.3–4.6 (4.0–4.1 \times 4.6–5.0); interocular width, 0.7–0.9 (1.1–1.2).

Remarks. – The shape of the female's subgenital plate of *reversa* resembles that of the female of *Haplosymploce nigra* (= *ferruginea*; see Roth, 1985b: fig. 11C).

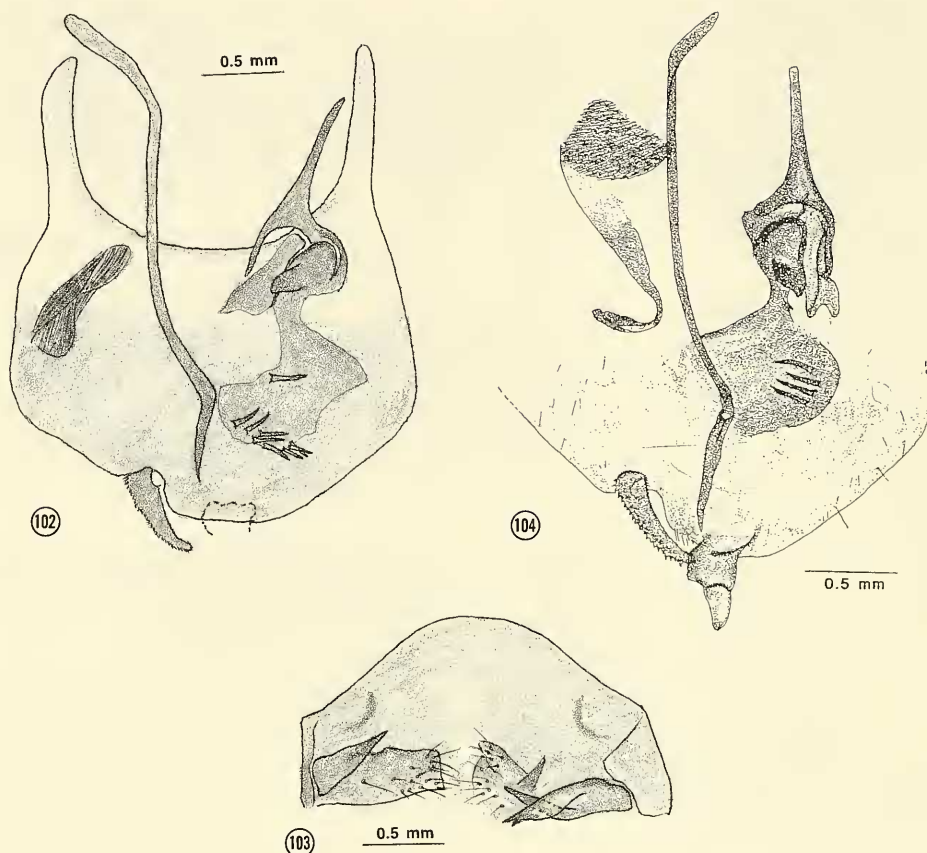
Haplosymploce andamanica (Princis) comb. n.
(figs. 93–101)

Mopsera andamanica Princis, 1951: 59, pl. 6, fig. 64 (male & female).

Pseudothyrocera andamanica (Princis). – Princis 1969: 956.

Specimens examined. – Holotype ♂ (terminalia slide 111), Port Blair, Andaman Islands, Roepstorff; in ZMUC. Paratype. Andaman Islands. ZMUC: 1 ♀, same data as holotype.

Redescription. – Male: Head surface rough and with small setae, interocular width the same as the distance between antennal sockets; fifth maxillary palpomere distinctly longer than the fourth. Pronotum suboval, widest behind the middle, surface densely punctate and punctulate, and covered with small setae (fig. 93). Tegmina and wings fully developed extending beyond the end of the abdomen, the former with longitudinal discoidal sectors. Hind wings with subcosta extending to about the middle of the anterior margin, costal veins thickened, not clubbed, radial and media veins simple, cubitus vein weakly curved, with four complete and two incomplete branches, apical triangle absent (fig. 98). Front femur Type B, with 7 large proximal spines; pulvilli on four proximal tarsomeres, tarsal claws simple, symmetrical, arolia very small. First abdominal tergum medially with a pair of raised ridges and a deep fossa, and two groups of setae originating along the anterior margin and overlapping the fossae; a pair of filamentous membranes, apparently arising from the posterior margin of the metanotum extends to the first abdominal tergum (fig. 96). Seventh abdominal tergum with a deep medial fossa in which are a dense, group of curved setae (figs. 97). Supraanal plate appears to be trapezoidal, in the pinned specimen, because the hind margin is deflexed ventrad (fig. 99); in the slide preparation the hind margin is convexly rounded (fig. 95) with long setae along the hind margin; a pair of similar intercercal processes are spinelike



Figs. 102-104. *Beybienkoa guttifera* (Walker). 102-103, male holotype: 102, subgenital plate and genitalia (dorsal; the left hooklike phallomere and right style are missing); 103, supraanal plate and paraprocts (ventral); 104, male subgenital plate and genitalia, from near Mt Tozer, Queensland, Australia (dorsal) (from Roth, 1991, fig. 64A, as *Beybienkoa papuensis*).

and have a small spine apically; right and left paraprocts are dissimilar, each consisting of a stout curved sclerite the right one bearing seven stout spines apically and the left one with three apical spines (fig. 95). Subgenital plate asymmetrical, the hind margin to the left of the midline excavated, with a pair of dissimilar styles separated by the width of the excavation, the right style larger (figs. 94, 100). Genitalia as in fig. 100: hook on the left side with a preapical incision, and surrounded by a spicular membrane; near the hook is a dense, dark group of setae; median phallomere a slender, apically acute rod, above it is a dense group of dark setae near the apex; right phallomere with three sclerites one of which is a cleft.

Female: Interocular width slightly greater than in male. Front femur Type B. Supraanal plate strongly trigonal, apex acute (fig. 101).

Colour. — Head black, only the clypeus and mouthparts partly brownish; maxillary palpomeres blackish; basal segments of the antennae blackish, remainder brownish yellow. Pronotal disk with a solid dark macula completely surrounded by pale orange yellow (fig. 93). Tegmina dark reddish brown. Hind wing hyaline, without infuscation, veins brownish. Abdominal terga with middle segments orange yellow, distal terga dark brown. Abdominal sterna with proximal segments orange yellow, distal segments blackish brown. (Female hind margin of subgenital plate orangish). Coxae and legs blackish brown.

Measurements (mm) (♀ in parentheses). – Length, 13.5 (12.0); pronotum length \times width, 3.4×4.3 (3.7×4.4); tegmen length, 14.0 (14.0); interocular width, 0.5 (0.7).

Remarks. – Princis (1969: 956) placed this species in *Pseudothyrocera*. However, the hind wing venation, subgenital plate, styles, and intercercal processes, are similar to those structures in species of *Haplosymploce*, and I am transferring *andamanica* to this genus.

Haplosymploce curta (Hanitsch)

Symploce curta Hanitsch, 1932c: 264 (female).

Haplosymploce curta (Hanitsch). – Hanitsch 1933a: 128; Bruijning 1947: 218; Princis 1969: 876.

Holotype (not examined), ♀, Mampoe-grot (Mampoe cave), S. Celebes, S. Leefmans, ix.1929; the type is supposed to be in the Leyden Museum, but according to Bruijning (1947: 218) it is not there and probably is in the collection of the Buitenzorg Museum (now Museum Bogor).

Description (from Hanitsch 1932c). – Female: Head exposed, interocular space as wide as the distance between antennal sockets. Pronotum sub-orbulate, anterior margin straight to weakly emarginate, hind margin obtusely produced. Tegmina short, reaching to the middle of the supraanal plate: 11 costals, the ninth and eleventh forked, the tenth four-branched; radial vein simple, discoidal sectors longitudinal. Wings as long as the tegmina, subcostal vein bifurcate; 8 costals, radial and media veins straight, simple, cubitus vein with three complete and two incomplete branches, apical triangle absent. Front femur Type A. Supraanal plate trigonal, keeled.

Colour. – Head dull orange, antennae rusty reddish brown. Pronotal disk dull orange, margins darker. Tegmina golden amber. Wings faintly orange, costal and apical regions dark orange. Cerci dull orange. Abdominal sterna dull reddish orange. Legs dull brownish yellow.

Male: Unknown.

Measurements (mm). – Total length, 11.0; pronotum length \times width, 4.0×4.3 ; tegmen length, 8.8.

Remarks. – Until the male is found I am provisionally retaining the species in *Haplosymploce* because its cubitus vein of the hind wing has three complete branches and its front femur is Type A.

? *Haplosymploce castanea* (Brunner) comb. n.

Phyllodromia castanea Brunner, 1898: 204, pl. 16, fig. 7

(male). – Kirby 1904: 93; Shelford 1908a: 13; Hanitsch 1923: 402.

? *Mopsera castanea* (Brunner). – Hebard 1929: 78; Bruijning 1948: 98.

? *Pseudothyrocera castanea* (Brunner). – Princis 1969: 956.

Holotype (not examined), ♂, Brunei, Borneo; supposedly in Brunner's collection in NMWA but it is not there (Kaltenbach, personal communication).

Description (from Brunner). – Male: Reddish brown. Vertex exposed, the front rusty red brown. Pronotum elongate, lateral margins pale. Marginal field of the tegmen brownish yellow. Wing not very infumate. Cubitus vein of hind wing with four branches. Legs and abdomen reddish brown.

Measurements (mm). – Body length, 11.0; pronotum length \times width, 3.0×3.3 ; tegmen length, 10.5.

Remarks. – Brunner's meagre description is not sufficient to place *castanea* in *Pseudothyrocera* unequivocally. I am provisionally placing it in *Haplosymploce* because the cubitus vein of the hind wing has four (?complete) branches.

Distribution of *Haplosymploce* by species:

andamanica: Andaman Islands

bicolor: Sarawak

? *castanea*: Brunei

curta: Sulawesi

montis: Sabah; Sarawak; Sumatra

moultoni: Sarawak

nigra: Mentawai Island; Sabah; Sumatra; West

Malaysia

pica: Singapore, Sumatra

reversa: Singapore; West Malaysia

ruficollis: Malaysia

Distribution of *Haplosymploce* by country or region:

Andaman Islands: *andamanica*

Brunei: ? *castanea*

Malaysia: *ruficollis*

Mentawai Islands: *nigra*

Sabah: *montis*, *nigra*

Sarawak: *bicolor*; *montis*; *moultoni*

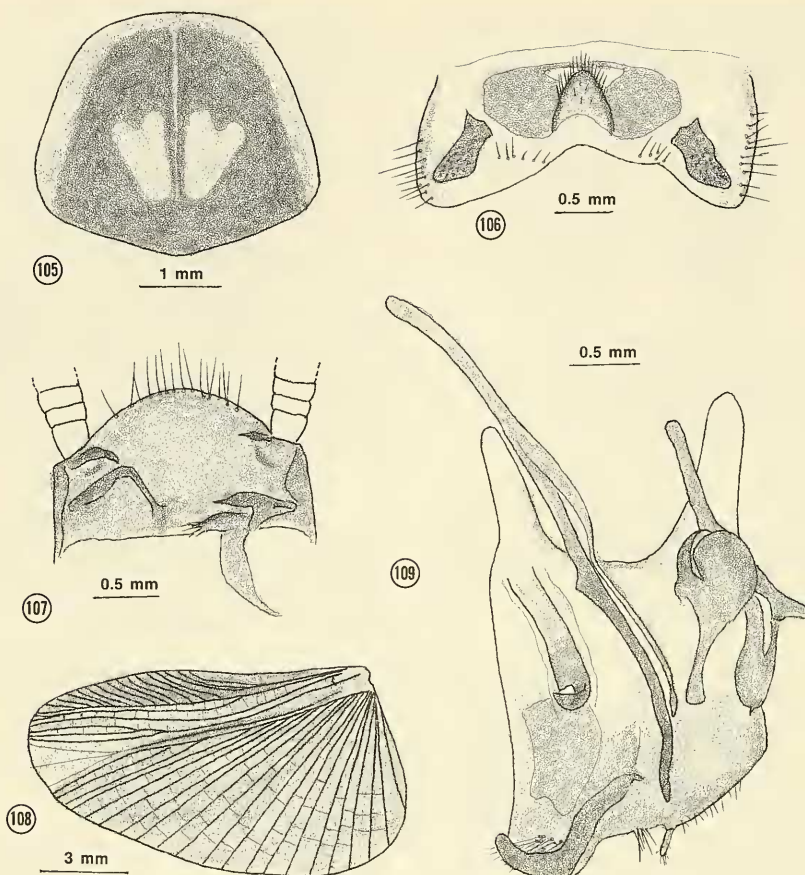
Singapore: *pica*; *reversa*

Sulawesi: ? *castanea*; *curta*

Sumatra: *nigra*; *pica*

West Malaysia: *nigra*; *reversa*

The following two species, *Blatta guttifera* and *Blatta walkeri*, which were listed by Princis (1969: 875, 876) under *Haplosymploce* belong in two different genera and are redescribed here as new combinations:



Figs. 105-109. *Hemithyrsochera walkeri* (Princis), male holotype of *Blatta elegans* Walker: 105, pronotum; 106, seventh abdominal tergum showing the medial gland and lateral lobes; 107, supraanal plate, subobsolete intercercal processes, and paraprocts (ventral); 108, hind wing; 109, subgenital plate and genitalia (dorsal).

Beybienkoa guttifera (Walker) comb. n.
(figs. 102-104)

Blatta guttifera Walker, 1868: 230 (male).

Phyllodromia guttifera (Walker). – Kirby 1904: 93;
Shelford 1907: 493, 1908a: 14.

Haplosymploce guttifera (Walker). – Princis 1969: 875.

Symploce papuensis Roth 1985d: 300, figs. 1A-J (male). Syn.
n.

Beybienkoa papuensis (Roth). – Roth 1991: 656, figs. 64A-C
(male & female).

Specimen examined. – Holotype, ♂ (terminalia slide 302), Aru Island [Moluccas], Mr. Saunders coll.; Type Orth. 97 in HECO. [the type is in very poor condition].

Remarks. – Unfortunately the hind wings are badly damaged, the right style and hook left phallomere are missing from the type (fig. 102). However, this species so closely agrees with the description of *Symploce papuensis* (Roth 1985d: 300) and later its new combination *Beybienkoa papuensis* (Roth 1991: 656) (from Papua New Guinea and Queensland, Australia), that I am synonymizing the two species. Similarities are found in the pronotum and head markings (see figs. 1A, B in Roth, 1985d), the supraanal plate and paraprocts (fig. 103), subgenital plate and left style (right style broken off); cf. figs. 102 and 104. There is only a minor difference in the right genital phallomere, one of whose sclerites in *papuensis* has four spines (fig. 104), whereas there are nine in *guttifera* (fig. 102), but I consider this in-

traspecific variation. The hind wing cubitus vein of *papuensis* has two long complete and zero to one incomplete branches, apical triangle distinctly developed (fig. 1J in Roth, 1985d).

Hemithyrocera walkeri (Princis) comb. n.
(figs. 105-109)

Blatta elegans Walker (nec Eschscholtz, 1822) 1868: 226 (male).

Phyllodromia elegans (Walker), Kirby 1904: 92; Shelford 1907: 492, 493, 1906: 13; Hanitsch 1915: 55, 1923: 463.

Parasymphloe elegans (Walker). – Hebard 1929: 10.

Haplosymphloe walkeri Princis 1969: 876.

Specimen examined. – Holotype, ♂ (terminalia slide 303), Sarawak, Wallace, in Mr. Saunder's coll.; Type Orth. 95 in HECO.

Redescription. – Male: Head with interocular space distinctly less than the distance between antennal sockets. Pronotum suboval, hind margin produced (fig. 105). Tegmina and wings fully developed extending beyond end of abdomen, the former with a branched radial vein and longitudinal discoidal sectors. Hind wing with simple costal veins, radial vein branched before the middle, media and cubitus veins deeply concave, the latter with two complete and no incomplete branches, apical triangle well developed (fig. 108). Front femur Type A₁; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, apparently with subobsolete serrations, arolia present. First abdominal tergum unspecialized. Seventh abdominal tergum with a medial setose gland and dark, well developed lateral lobes (fig. 106). Supraanal plate hind margin convexly rounded, entire; intercercal processes greatly reduced; right and left paraprocts dissimilar (fig. 107). Subgenital plate asymmetrical with a small cylindrical right style, and on the left side a large, darkly sclerotized, curved structure (possibly a left style) (fig. 109). Genitalia as in fig. 109: hook on the left side, without a preapical incision; median phallosome a stout rod with a slender filament arising from its upper third, right phallosome consisting of two large sclerites one of which is a cleft structure.

Female: Unknown.

Colour. – Head brownish yellow with a dark band on the vertex; last maxillary palpomere, and antennae dark. Pronotum with a pair of large dark bands very narrowly separated medially, and with two large brownish yellow maculae on the posterior half, lateral and anterior borders brownish yellow (fig. 105). Tegmina reddish brown. Hind wings infuscated, costal area darker (fig. 108). Legs brownish yellow. Cerci brownish.

Measurements (mm). – Length, 10.6; pronotum

length × width, 3.1 × 3.7; tegmen length, 13.0; interocular width, 0.4.

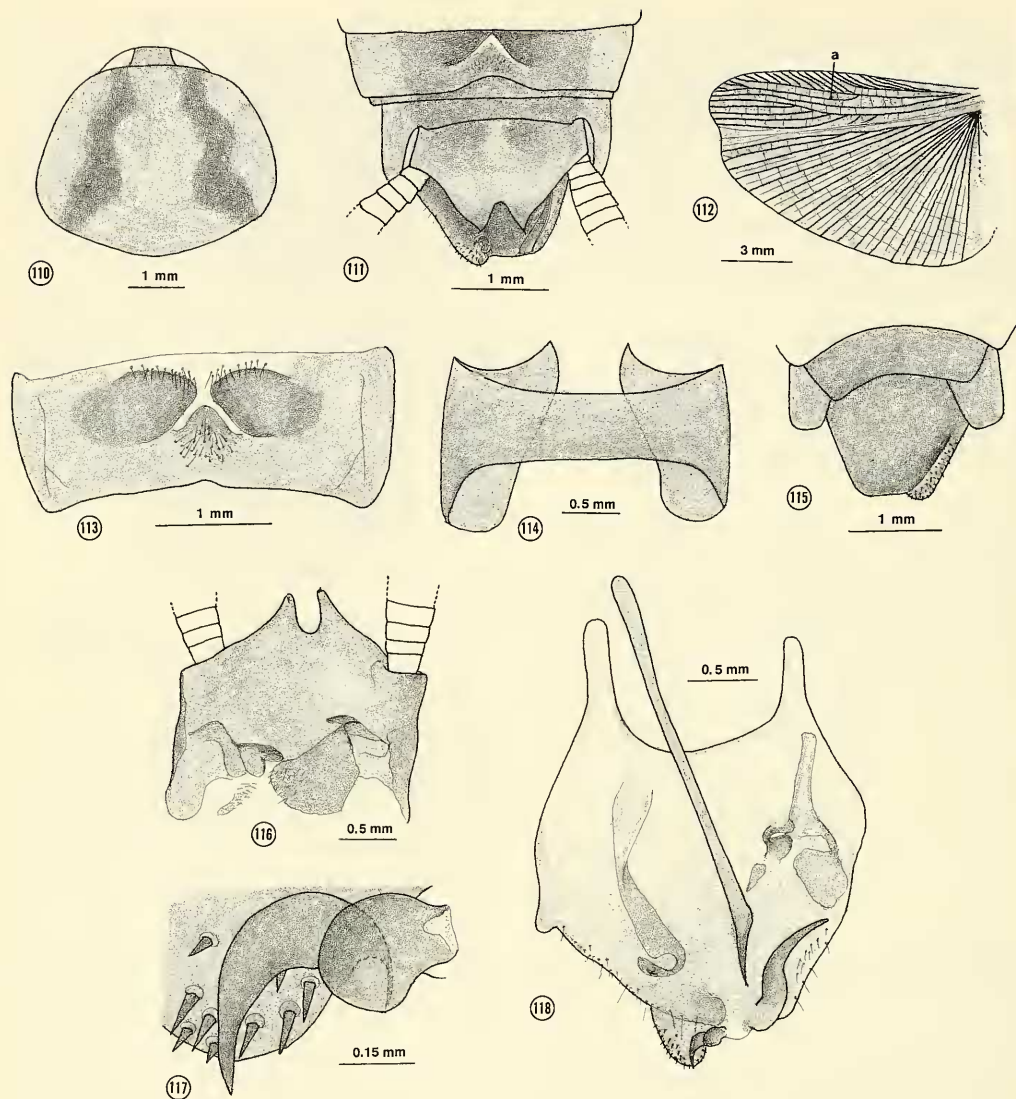
Remarks. – Hebard (1929: 10) listed this species (and three others) in a table as ‘... *elegans*’. Princis (1969: 876) assumed he placed them in *Parasymphloe* because several taxa listed before them were placed in that genus. If he meant the dots to represent *Parasymphloe*, he was correct because *Parasymphloe* is a junior synonym of *Hemithyrocera* (Roth 1995: 962). The gland and lateral lobes of the seventh tergum, wing venation and distinct apical triangle, subgenital plate and genitalia of *walkeri* are typical of *Hemithyrocera* (= *Parasymphloe*), and the species clearly is not a *Haplosymphloe* as claimed by Princis. The subobsolete serrations on the tarsal claws is unusual for the genus.

New combinations, new species, and new records of *Episymphloe*

Genus *Episymphloe* Bey-Bienko

Episymphloe Bey-Bienko, 1950: 157; Asahina, 1979: 352; Roth, 1986b: 355; 1986c: 173; 1987a: 455; 1987b: 111; 1987c: 125; 1987d: 143 (generic revision, new species).

Diagnosis. – Tegmina and wings fully developed (rarely with reduced tegmina and wings in the female), the former with longitudinal discoidal sectors. Hind wing with radial vein usually branched before or after the midpoint; cubitus weakly or distinctly curved with one to seven (rarely none) complete branches, and none to seven incomplete rami, apical triangle subobsolete or absent (fig. 112). Anteroventral margin of front femur Type A₁, B₁ (rarely B₂), or intermediate between the two types; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia present. Male: First abdominal tergum with or without a gland. Seventh abdominal tergum always specialized (figs. 111, 113). Supraanal plate often asymmetrical, the hind margin may be invaginated, excised (fig. 116), sometimes entire, or with a symmetrical or asymmetrical process (fig. 120); right and left paraprocts dissimilar; intercercal processes absent (figs. 116, 120). Subgenital plate asymmetrical, often trigonal with the left (figs. 111, 115), or right and left sides setose and incrassate (the thickened region may vary in length, and sometimes is absent); usually there is a spinelike process on each side about midway on the lateral margin, these differing in length on the right and left sides (these are similar to subgenital plates of the *lugubris*-species-group of *Pseudothyrocera*; see fig. 47). Two similar or dissimilar styles usually occur on the apical end of the subgenital plate (fig. 118). Genitalia consisting of



Figs. 110-118. *Episymphloe simmonsii* sp. n., male paratype: 110, pronotum; 111, abdominal terga seven to ten, and subgenital plate (dorsal); 112, hind wing (a, posterior branch of the radial vein); 113, seventh abdominal tergum; 114, ninth abdominal tergum and laterotergites (dorsal; the laterotergites are turned under the tergum); 115, eighth abdominal sternum, ninth laterotergites, and subgenital plate (ventral); 116, supraanal plate and paraprocts (ventral); 117, left style and thickened corner of the subgenital plate; 118, subgenital plate and genitalia (dorsal).

three phallomeres, the hook occurring on the left side (fig. 118), placing the genus in the Blattellinae.

Remarks. — The hind wing venation of *Haplosymphloe* is similar to that of *Episymphloe* except that its radial vein is unbranched (or has a pseudoposterior branch). Also the former genus has intercercal

processes which are lacking in *Episymphloe*.

In my revision of *Episymphloe* (Roth, 1987a: 150) I described and redescribed 53 species. In this paper I describe two new species and transfer some species of *Symphloe*, raising the total number in the genus to about 70.

Episymphloe simmonsii sp. n.
(figs. 110-118)

Specimens examined. – Holotype, ♂, Indonesia, Sulawesi, Tengah, Gng., Sinsing, above Sinsing Camp, SW. of Luwuk, understory/canopy lowland rainforest at light, 200 m, Sample Sul. 16, 16.x.1989, J.P. Duffels; in ZMAN. Paratypes: Sulawesi. ZMAN: Indonesia, Sulawesi Tenggara, Centipede Camp, nr. Gng. Watowila, NE. of Kolaka, c. 3°49'S 121°40'E, canopy undisturbed hilly rainforest at light, 1100 m, Sample Sul. 31, 1 ♂ (terminalia slide 47), 2.xi.1989, Sample Sul. 34, 1 ♀, 5.xi.1989, J.P. Duffels.

Description. – Male: Head slightly exposed, interocular space the same as distance between ocellar spots. Pronotum suboval (fig. 110). Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors. Hind wing with five subcostal veins and ten simple costal veins, radial vein with a branch originating before the middle, terminating in one forked and one simple branch; media and cubitus veins concave the former simple, the latter with four complete and two small incomplete branches, apical triangle subobsolete (fig. 112). Front femur Type A; pulvilli on four proximal tarsomeres of all legs, tarsal claws simple, symmetrical, arolia small. First abdominal tergum with a row of setae along an anterior ridge and a few setae anteromedially. Seventh abdominal tergum with a pair of deep, dark fossae anteromedially, with a row of setae along the anterior margins of the depressions; between the fossae is a triangular elevation bearing a group of setae (figs. 111, 113). Right and left ninth laterotergites similar, ventral margins without dark setae (fig. 114). The supraanal plate hind margin has a U- or V-shaped medial excavation forming a pair of lobes that do not reach the hind margin of the subgenital plate if their apices are deflexed (holotype, fig. 111); in the paratype the lobes are not deflexed and their tips reach the hind margin of the plate; each lobe has a minute dark terminal spine; intercercal processes absent; right and left paraprocts dissimilar, the right one with a small sclerotized, apically rounded process and a large, more lightly sclerotized plate, left paraproct with a darkly sclerotized plate (figs. 111, 116). Subgenital plate asymmetrical the hind margin truncate, left side roundly thickened or swollen and bearing minute spicules or spines; styles, which are not visible in ventral view (fig. 115), are strongly dissimilar, the right one large, spinelike, lying pressed against the right side of the plate, left one much smaller, corkscrew shaped, arising near the base of the swollen margin (figs. 111, 115, 117, 118). Genitalia as in fig. 118; hook on the left side with a preapical incision, median phallomere a slender rod,

its apex darkly sclerotized and acute, right phallomere consisting of about four sclerites one of which is a small cleft.

Female: Supraanal plate convexly rounded. Branch of radial vein of hind wing terminally forked.

Colour. – Head yellowish brown without markings, labrum darker; maxillary palpomeres two and three pale, segments four and five dark brown. Pronotum with a pair of irregular, oblique blackish stripes that reach the anterior and posterior borders, background colour yellowish brown (fig. 110). Tegmina without markings, hyaline, light brown, humeral area lighter. Hind wing infuscated (fig. 112). Abdominal terga brown with yellowish lateral borders, fossae on abdominal tergum seven black; in the holotype, the supraanal plate has a pair of dark round maculae anteromedially (fig. 111), which is absent in the paratype, remainder yellowish brown. Abdominal sterna and legs light brown. Cerci light brown dorsally, darker ventrally.

Measurements (mm) (♀ in parentheses). Length, 13.5-14.0 (12.8); pronotum length × width, 3.1-3.4 × 3.8-4.1 (3.0 × 3.7); 14.0-14.2 (12.7); interocular space, 0.4-0.6 (0.8).

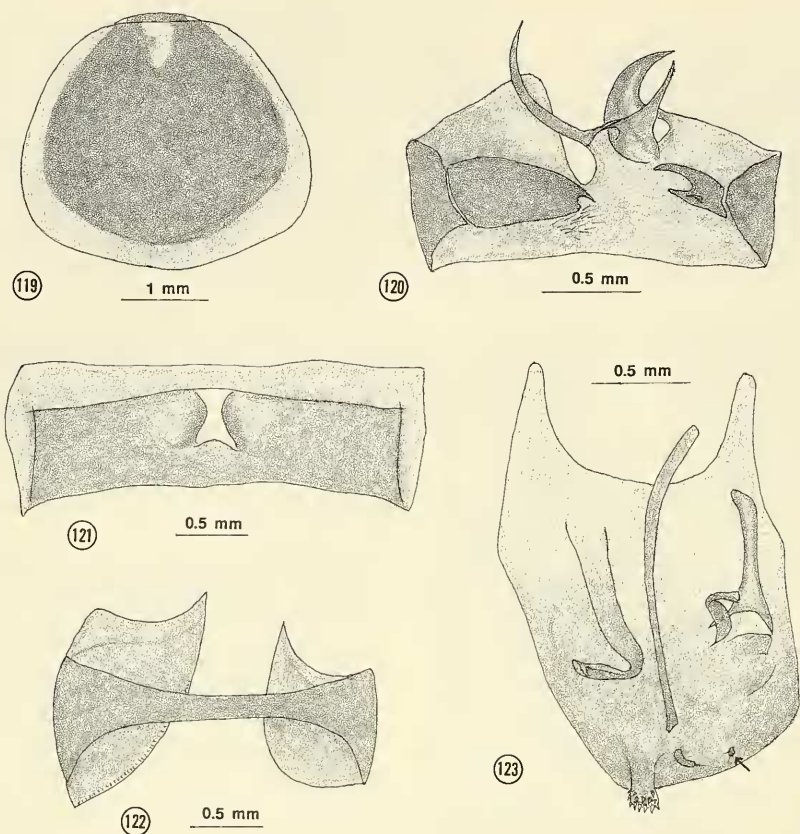
Etymology. – The species is dedicated to Dr. Emory Simmons, mycological taxonomist, friend, and former colleague at the U.S. Army Research and Development Laboratories, Natick, MA.

Remarks. – Compared with the other known species on Sulawesi, the subgenital plate, and styles of *simmonsii* come closest to those of *Episymphloe sulawesensis* Roth (cf. figs. 117-118 with figs. 6C, E, in Roth 1986c). The two species differ strongly in their pronotal markings, and shapes of the supraanal plate and ninth laterotergites (cf. figs. 110, 111, 114, 116, with figs. 6A, B, G in Roth, 1986c).

Episymphloe parafissa sp. n.
(figs. 119-123)

Specimen examined. – Holotype ♂ (terminalia slide 50), Indonesia, Sulawesi, Tengah, Totop camp along Batui river, 1°09'S 122°31'30"E SW. of Luwuk, Sample Sul. 21, understory/canopy lowland rainforest, at light, 120 m, 21.x.1989, J.P. Duffels; in ZMAN.

Description. – Male: Head hidden, interocular space greater than distance between ocellar spots. Pronotum suboval (fig. 119). Tegmina and wings fully developed extending beyond end of abdomen, the former with longitudinal discoidal sectors. Hind wing with simple, thickened costal veins, radial vein with an apically forked branch arising near the middle,



Figs. 119-123. *Episymphlece parafissa* sp. n., male holotype: 119, pronotum; 120, supraanal plate and paraprocts (ventral); 121, seventh abdominal tergum; 122, ninth abdominal tergum and laterotergites (dorsal; the laterotergites are folded under the tergum); 123, subgenital plate and genitalia (dorsal; the arrow indicates the subobsolete right style).

media vein simple, cubitus vein with two complete and three incomplete branches, apical triangle small. Front femur Type A; pulvilli on four proximal tarsomeres, tarsal claws symmetrical, simple, arolia small. First abdominal tergum unspecialized. Abdominal tergum seven with a pair of shallow, non-setose depressions separated by a clear longitudinal zone (fig. 121). Supraanal plate strongly asymmetrical, hind margin deeply excavated forming two lobes, the right one terminating as a stout spinelike process and two dissimilar spinelike processes arising on the ventral surface; intercercal processes absent; paraprocts dissimilar sclerotized plates, the left one larger (fig. 120). Ninth laterotergites dissimilar, the left one larger and with a fringe of minute spicules along the ventral margin, these absent from the smaller right

plate (fig. 122). Subgenital plate asymmetrical with a small apically spined structure protruding from the hind margin and to its right a very small left style and a subobsolete right style; midlateral margins of the plate without processes (fig. 123; both styles are not visible ventrally in the pinned specimen and the right style can be detected under high magnification in the slide preparation). Genitalia as in fig. 123: hook on the left side, with a preapical incision; median phallosomere a curved simple rod, apex blunt; right phallosomere consisting of at least two distinct sclerites one of which is a reduced cleft.

Colour. — Head black, ocellar spots whitish, clypeus and labrum pale; maxillary palpi and antennae black. Pronotum blackish with a broad yellow border laterally and posteriorly and a small yellow

mark anteriorly (fig. 119). Tegmina dark reddish brown with a yellow band along the subcostal region and along about two thirds the length of the costal zone. Abdominal terga dark brown, the lateral borders yellow. Supraanal plate reddish brown with a yellowish spot on the distal margin of each lobe on either side of the excavation. Abdominal sterna brown, yellow along the lateral margins. Legs dark brown.

Female. Unknown.

Measurements (mm). – Length, 9.7; pronotum length \times width, 3.0×3.5 ; tegmen length, 10.5; interocular width, 0.8.

Remarks. – The pronotal markings of *parafissa* are similar to those of *fissa* (cf. fig. 119, with fig. 9A in Roth 1986c) and both have the hind margin of the supraanal plate deeply excavated (cf. fig. 120, with fig. 9B in Roth, 1986c). Although there are distinct specific differences in the styli, detailed structure of the supraanal plate and paraprocts, and the ninth laterotergites, indicate that these two species are closely related.

The following species of *Symploce* are transferred to *Episymploce*; I had placed these in *Symploce* because they have symmetrical supraanal plates, without modified hind margins. One of the characters used to separate *Episymploce* from *Symploce* was an asymmetrical plate, or if symmetrical its hind margin was excised or showed some modification. However, I now believe that some species may have symmetrical, unmodified supraanal plates, and belong in *Episymploce*, provided other features (especially the subgenital plate, styles, and wing venation) are characteristic of the genus.

Episymploce falcifera (Hanitsch) comb. n.

Ischnoptera falcifera Hanitsch, 1925: 81, figs. 4, 5.

Symploce falcifera (Hanitsch). – Hebard 1929: 10; Roth 1985a: 456, figs. 1A-J. [Sarawak].

Episymploce juxtafalcifera (Roth) comb. n.

Symploce juxtafalcifera Roth, 1985a: 459, figs. 2A-J, 3A-I. [Borneo, Philippines, Singapore].

Episymploce tibangensis (Roth) comb. n.

Symploce tibangensis Roth, 1985a: 460, figs. 4A-J. [Sarawak].

Episymploce busuangensis (Roth) comb. n.

Symploce busuangensis Roth, 1985a: 461, figs. 5A-K [Philippines].

Episymploce talinasensis (Roth) comb. n.

Symploce talinasensis Roth, 1985a: 464, figs. 6A-I. [Philippines].

Episymploce torrevillasi (Roth) comb. n.

Symploce torrevillasi Roth, 1985a: 464, figs. 7A-J, 8A-G [Philippines].

Episymploce telephoroides (Walker) comb. n.

Blatta telephoroides Walker, 1871: 23.

Allacta telephoroides (Walker). – Kirby 1904: 100.

Phyllodromia telephoroides (Walker). – Shelford 1908a: 12.

Gislenia telephoroides (Walker). – Princis 1959: 125 (incorrectly synonymized with *Blatta brevipes* Walker).

Symploce telephoroides (Walker). – Roth 1985a: 468, figs. 9A-I [India].

Episymploce dispar (Princis) comb. n.

Symploce dispar Princis, 1957: 147, fig. 14. – Roth 1985a: 468, figs. 10A-M. [Flores].

Episymploce forficula (Bey-Bienko) comb. n.

Symploce forficula Bey-Bienko, 1957: 906. – Roth 1986a: 379, figs. 3A-I. [China, Thailand].

Episymploce perakensis (Roth) comb. n.

Symploce perakensis Roth, 1986a: 379, figs. 4A-G. [West Malaysia].

Episymploce quadripunctata (Hanitsch) comb. n.

Phyllodromia quadri-punctata Hanitsch, 1915: 57, pl.1, fig. 1.

'*Phyllodromia*' *quadripunctata* Hanitsch. – Hebard 1929: 11.

Symploce quadripunctata (Hanitsch). – Princis 1969: 886; Bruijning 1948: 83; Roth 1986a: 386, figs. 8A-G, 9A-E (redescription).

Episymploce bipinnacula (Roth) comb. n.

Symploce bipinnacula Roth, 1986a: 389, figs. 10A-I. [South Vietnam].

Episymploce ligulata Bey-Bienko

Episymploce ligulata Bey-Bienko, 1957: 911, fig. 12.

Symploce ligulata (Bey-Bienko). – Roth 1985c: 214, 1986a: 391, figs. 12A-J. [China, Thailand].

Episymploce popovi Bey-Bienko

Episymploce popovi Bey-Bienko, 1957: 910.

Symploce popovi (Bey-Bienko). – Roth 1985c: 214, 1986a: 394. [China].

Episymphloe marginata Bey-Bienko*Episymphloe marginata* Bey-Bienko, 1957: 911.*Symphloe marginata* (Bey-Bienko). – Roth 1985c: 214, 1986a: 394.

NEW RECORDS

Episymphloe sundaica (Hebard)*Symphloe sundaica* Hebard, 1929: 64, pl. 4, fig. 5, pl. 5, fig. 2 (male & female).*Episymphloe sundaica* (Hebard). – Roth 1985c: 214, 1986b: 365, figs. 7-13 (synonymy and redescrptions male & female).

Specimen examined. – Sabah. RMNH: N. Borneo, 16 km NE. of Tenom, orchid garden surr. by plantations, 180 m, 1♂, 06-1986, J. Huisman. Philippine Islands. ANSP: Zambalea Province, Luzon, 2♂, 1♀, xii.1917, W. Boettcher.

Remarks. – *Episymphloe sundaica* is a very widely distributed species with at least seven synonyms. The type is from Sumatra but the species is found in Java, Kalimantan (East Borneo), Laos, Okinawa, Papua New Guinea, possibly Sulawesi (Celebes), Thailand, and Taiwan; in Sabah, it was previously reported from Sensuron (Roth 1986b: 371-373).

Episymphloe malaisei malaisei (Princis)*Symphloe malaisei* Princis, 1950b: 217, figs 14, 15 (male & female).*Episymphloe malaisei malaisei* (Princis). – Roth 1987c: 136, figs. 3A-K (redescription).

Specimen examined. – Burma. ANSP: Myitkyina, Upper Burma, at tent lights or environs of town, 1♂, 10.vi.1945, J.W.H. Rehn.

Remarks. – This subspecies also is found in China.

Episymphloe suknana Roth*Episymphloe suknana* Roth, 1987b: 119, figs. 6A-J (male).

Specimens examined. – India. MCZC: Alagar hill, about 16 km from the ancient temple city of Madurai, rainforest, about 900 m, 3♂ (one with terminalia in vial), 4♀, reared from nymphs (killed 26.vii.1994), A. Padmanabhan.

Measurements (mm) (♂ holotype in brackets; ♀ in parentheses). – Length, 18.5-20.0 [19.0] (19.4-22.5); pronotum length × width, 4.3-4.6 × 5.5-5.8 [4.6 × 6.1] (4.8-5.3 × 6.0-6.5); tegmen length, 17.5-18.1 [20.0] (19.0-20.5); interocular width, 0.6 (0.9).

Remarks. – This species was previously known from the unique male holotype from Sukna, 55 km south of Darjeeling. The specimens have a large black macula on the pronotum and the head is black except for the pale clypeus. The male supraanal and subgenital plates and genitalia agree well with those of the holotype.

According to Padmanabhan (personal communication), the nymphs of *suknana* are shiny black and rarely have a pair of orange spots on the pronotum. The immatures live in holes under stones. Adults also occur under stones and litter and rarely are seen on shrubs. Females carry their oothecae for two to three days before depositing them. Eggs hatch in 34 to 36 days.

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